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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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	1358.8	1359.2	1380.2	1382.2	1383.6	1390.6	1391.6	1391.6	1417	1449	1452.2	1455.4	1457	1457	1457	1457	1457	1457	Score
,	93.3	93.3	94.7	94.9	95.0	95.4	95.5	95.5	97.3	99.5	99.7	99.9	100.0	100.0	100.0	100.0	100.0	100.0	Query Match Length
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ALIGNMENTS

Query Match Best Local Similarity Matches 1457; Conser	rana Origin	JOURNAL Su Gr FEATURES SOUICE	JOURNAL APPLICATION OF THE PUBMED 11 REFERENCE 2 AUTHORS BU TITLE Di	ORGANISM NI REFERENCE 1 RUTHORS BU TITLE 16	53 TION TON NO
100.0%; Score 1457; DB 3; Length 1457; imilarity 100.0%; Pred. No. 8.3e-16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	/organism="Nitrosomonas sp. R7c140" /organism="Nitrosomonas sp. R7c140" /mol type="genomic DNA" /isolation_source="ammonia-oxidizing bacteria isolated from freshwater aquaria enrichments" /db_xref="taxon:180543" /db_xref="taxon:180543" /clone="R7c140" /environmental_sample <1>1457 /product="165 ribosomal RNA"	Submitted (30-MAY-2001) Aquatic Research Laboratory, The Aquaria Group, 6100 Condor Dr, Moorpark, CA 93021, USA Location/Qualifiers 1. 1457	Appl. Environ. Microbiol. 67 (12), 5791-5800 (2001) 11722936 2 (bases 1 to 1457) Burrell.P.C., Phalen,C.M. and Hovanec,T.A. Direct Submission	Nitrosomonas sp. R7c140 Nitrosomonas sp. R7c140 Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales; Nitrosomonadaceae; Nitrosomonas; environmental samples. 1 (bases 1 to 1457) Burrell, P.C., Phalen, C.M. and Hovanec, T.A. Identification of bacteria responsible for ammonia oxidation in freeburter agraria	gI:1.

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/db xref="taxon:32644"
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421 421	
Qy 361 CAGCAJ Db 361 CAGCAJ	1201 TACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAAGCGCG 1260
Qy 301 GCCCA(Db 301 GCCCA(1141 GAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAA 1200
Qy 241 CAAGGG	1081 CTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCG 1140
Qy 181 GACCTT	1021 CATGGCTGTCGTCAGCTCGTGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAACC 1080
Oy 121 ACGCA:	961 GACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGGTGCTG 1020
Qy 61 CTGGTC Db 61 CTGGTC	901 GCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCTACC
	841 AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC 900
Query Match Best Local Similar Matches 1457; Cor	781 CTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA 840
ORIGIN	721 GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC 780
source	661 TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT 720
	601 TGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG
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Db 1441 GATTCA	361 CAGCAATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA 420 .
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a-oxidizing bacteria
EP 1502948-A 1 02-FEB-2005;
a Inc. (US)
                                                                                                   GCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACACTGGGACTGAGACACG
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54.1 GI:66714438
GTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC
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|mol type="unassigned DNA"
|/mol type="thaxon:32644"
|note="Description of Unknown Organism:
|ammonia-oxidizing bacterium represented
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Patent: EP 1502948-A 2 02-FEB-2005;
Aquaria Inc. (US)
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                                      GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC
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   CTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA
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/mol_type="unassigned DNA"
/db_xref="taxon:32644"
/note="Description of Unknown Organism: AOB Type A1
/mote-"Description of Unknown Organism: AOB Type A1
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Pred. No. 8.3e-16;
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Query Match 100.0%; Score 1457; DB 6; Length 1457;	AQUARIA, INC. (US) Location/Qualifiers 1. 1457 1. 1457 /organism="unidentifi/mol_type="unassigned/db_xref="taxon:3264//note="AOB Type A amm by R7 clone140"	SOURCE unidentified ORGANISM unidentified unclassified sequences. REFERENCE 1 AUTHORS Hovanec, T.A. and Burrell, P.C. TITLE Ammonia-oxidizing bacteria JOURNAL Patent: WO 0190312-A 1 29-NOV-2001;	RESULT 5 AX316092 LOCUS DEFINITION Sequence 1 from Patent WO0190312. ACCESSION AX316092 VERSION AX316092 VERSION AX316092.1 GI:17899283 KEYWORDS	Qy 1441 GATTCATGACTGGGGTG 1457 	QY 1381 GGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTGA 1440	OY 1321 GGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACACCAT 1380	OY 1261 TCGTAGTCCGGATCCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCGC 1320	OY 1201 TACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGAGCTAATCTCAGAAAGCGCG 1260 Db 1201 TACAATGGCGCTACAGAGGGTTGCCAACCCGCGAGGGGAGCTAATCTCAGAAAGCGCG 1260	QY 1141 GAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGCCTTCACACGTAA 1200	QY 1081 CTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCG 1140 Db 1081 CTTGTCATTAATTGCCATCATTTGGTTGGGCACCTTTAATGAGACTGCCGGTGACAAACCG 1140	OY 1021 CATGGCTGTCGTCAGCTCGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAACC 1080	OY 961 GACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGGTGCTG 1020	Qy 901 GCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCTTT 960	QY 841 AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC 900	Db 781 CTANACGATGTCAACTAGTTGGTGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA 840
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181 GACCTTGCGCTTTTGGAGCC	Oy 121 ACGCATCGAAAGATGTGCTA	Oy 61 CTGGTGGCGAGTGGCGGACC	Oy 1 ATTGAACGCTGGCGGCATGC	Query Match 100.0%; Best Local Similarity 100.0%; Matches 1457; Conservative 0	/moi_cype="unask /db_xref="faxon /noTe="AOB Type /noTe="AOB Type by R7 clone187"		AUTHORS Hovanec, T. A. and Burrell, P. TITLE Ammonia-oxidizing bacteria JOURNAL Patent: WO 0190312-A 2 29-1	ORGANISM unidentified ORGANISM unidentified unidentified unidentified organism unclassified sequences	DEFINITION Sequence 2 from Patent ACCESSION AX316093 GI:17899284	T 6	OY 1441 GATTCATGACTGGGGTG 14 	Oy 1381 GGGAGTGGGTTTCACCAGAA	Oy 1321 GGATCAGCATGTCGCGGTGA	Qy 1261 TCGTAGTCCGGATCGGAGTC	Oy 1201 TACAATGGCGCGTACAGAGG	Oy 1141 GAGGAAGGTGGGGATGACGT	Oy 1081 CTTGTCATTAATTGCCATCA	Db 1021 CATGGCTGTCGTCAGCTCGT
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	Qy 1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGCACGC	ORIGIN Query Match Best Local Similarity 99.9%; Pred. No. 8.8e-16; Matches 1456; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	Group, 6100 Condor Dr, Moorpark, CA Location/Qualifiers 11457 "e /organism="Nitrosomonas sp /mol_type="genomic DNA" /isolation source="ammonia from freshwater aquaria en /db_xref="taxon:180511" //db_xref="taxon:180511"	reshwater aquaria Appl Environ. Microbiol. 67 (12), 5791-5800 (2001) 11722936 2 (bases 1 to 1457) Burrell, P.C., Phalen, C.M. and Hovanec, T.A. Direct Submission Submitted (30-MAY-2001) Aquatic Research Laboratory, The Aquar	AF386752.1 GI:17864829 ENV. Nitrosomonas sp. R7c131 Nitrosomonas sp. R7c131 Bacteria; Proteobacteria; Betaproteobacteri Nitrosomonadacee; Nitrosomonas; environmen 1 (bases 1 to 1457) Burrell, P.C., Phalen, C.M. and Hovanec, T.A.	RESULT 7 AF386752	1321 GGATCAGCATGTCGCGGT
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Burrell, P.C., Phalen, C.M. and Hov
Direct Submission
Submitted (30-MAY-2001) Aquatic F
Group, 6100 Condor Dr. Moorpark,
Location/Qualifiers
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1 (bases 1 to 1457)
Burrell, P.C., Phalen, C.M. and Hovanec, T.A.
Identification of bacteria responsible for ammonia oxidation in
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/mol_type="genomic_DNA"
/isolation_source="ammonia-oxidizing
from freshwater aquaria enrichments"
/db_xref="taxon:180512"
/clone="R7c187"
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Pred. No. 1.1e-15;
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               1 (bases 1 to 1426)
Burrell, P.C., Phalen, C.M. a
Identification of bacteria
                                                       Bacteria; Proteobacteria; Betaproteobacteria; l
Nitrosomonadaceae; Nitrosomonas; environmental
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Nitrosomonas sp. R7c155
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Burrell,P.C., Phalen,C.M. and Hovanec,T.A.
Direct Submission
Submitted (30-MAY-2001) Aquatic Research Laboratory,
Group, 6100 Condor Dr, Moorpark, CA 93021, USA
Location/Qualifiers
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                                                                                         AGAGGGAGGTGGAATTCCATGTGTAGCAGTGAAATGCGTAGAGATATGGAAGAACATCGA
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/mol type="genomic DNA"
/isolation_source="ammonia-oxidizing
from freshwater aquaria enrichments"
/db_xref="taxon:180510"
/clone="R7c155"
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Pred. No. 3.6e-15;
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Nitrosomonas sp. BF16c57 16S
AF386746 AF386746.1 GI:17864823
ENV.
2 (bases 1 to 1487)
Burrell, P.C., Phalen, C.M. and Hovanec, T.A.
Direct Submission
Submitted (30-MAY-2001) Aquatic Research Laboratory,
Group, 6100 Condor Dr, Moorpark, CA 93021, USA
Location/Qualifiers
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                                                                                                                                                                                                Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; Nitrosomonas; environmental samples.
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Nitrosomonas sp. BF16c57
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Burrell, P.C., Phalen, C.M. &
Identification of bacteria
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from freshwater aguaria enrichments"
/db xref="taxon:180505"
/clone="BF16c57"
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/product="16S ribosomal
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Best Local Similarity 97.6%;
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RESULT 13
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TITLE
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Best Local Similarity 98.5%;
Matches 1424; Conservative
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Ecology, NICO-KNAW Centre for Limnology, Rijksstraatweg
Nieuwersluis, NETHERLANDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bollmann,A., Schmidt,I. and Bodelier,P.L.E. Influence of salt on activity, growth, protein acid composition of the new isolated ammonia ov Nitrosomonas strain Is343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16S ribosomal RNA; 16S rRNA gene.
Nitrosomonas sp. 18343
Nitrosomonas sp. 18343
Bacteria; Proteobacteria; Betaproteobacteria;
Nitrosomonadaceae; Nitrosomonas.
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Nitrosomonas sp. Is343 16S rRNA
AJ621032
AJ621032.1 GI:40994851
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Direct Submission
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TGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGTAACGC
                                             AACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGATGCTTGCATCTGG
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                                                                                                                                                                                                                                             /isolation_source="brakish water"
/db_xref="taxon:261298"
/country="Netherlands:River_Schelde"
                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                         /gene="16S rRb
/product="16S
                                                                                                                                                                                                                                                                                         /mol_type="genomic
/isolate="Is343"
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0; Mismatches 20;
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0у 182	AAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAATAC 1199	1140 G
Db 121	AAGGTGGGGATGACGTCAAGGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAATAC 1203	1144 G
Qy 122	GTCATTAATTGCCATCATTTAGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCGGAG 1139	1080 6
Db 61	CATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCGGAG 1143	1084 G
Qy 62	GGCTGTCGTCAGCTCGTGTCGTGAGATGTTGGGTTAAGTCCCGCAAACGAGCGCAACCCTT 1083	1024 G
Matches 1415	TGTAGCGAATTTTCTAGAGATAGATTAGATG-CTTCGGGAACGCTAACACAGGTGCTGCAT 1023	965 TO
Query Match	AAGCGGTGGATTATTGGATTAATTCGATGCAACGCGAAAAACCTTACCTTCCTT	900 A
rRNA		6 1
FEATURES Source		
AUTHORS Put Koo TITLE Dit JOURNAL Sul		
JOURNAL App PUBMED 111 REFERENCE 2	ATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACTGACG 724	665 A
AUTHORS	TTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGGTGGAATTCCATGTGTAGCAGTGAA 664	605 T
ORGANISM Ni	GGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAATTGCG 604	545 Q 540 Q
ACCESSION VERSION KEYWORDS SOURCE	TGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGTAAAG 544 	485 To
RESULT 14 AF272420 LOCUS DEFINITION	GTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGAAGCACCGGCTAACTACG 484	425 G
Db 1440	AAIGCCGCGIGAGIGAAGAAGCCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGAAAA- 419	361 A
Оу 1444		
Db 138	AGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATCCAGC 364	
Db 132	GCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACACTGGGACTGAGACACGGCCC 300	
Qy 132	O .	
Db 126	TIGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTACCAAG 244 	185 T
Оу 126		
Db 120	ATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGATCGAAAGACC 184	
Qy 1204		

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ACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGGTAAAGGCCTACC

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1450 bp DNA line
itrosomonas aestuarii 16S ribosomal RNA gene,
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urkhold, U., Pommerening-Roser, A.,
oops, H.P. and Wagner, M.
irect Submission
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hylogeny of all recognized species of ammonia oxidizers based on omparative 16S rRNA and amoA sequence analysis: implications for olecular diversity surveys ppl. Environ. Microbiol. 66 (12), 5368-5382 (2000)
                                                                                                                                                                                                                                                                                                                    Similarity
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htrosomonadaceae; Nitrosomonas.
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piversitaet Muenchen, Am Hochanger 4, Freising 85350, Germany
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CGCATCGAAAGATGTGCTAATACCGCATATTCTCTACGGAGGAAAGCAGGGGATCGAAAG
                                              СССАТССВАВАСАТСТССТВАТАССССВТВТВСТСТВАССВССВВАВССВСССВВАВССВВВВС
                                                                                                                           TGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGGTAA 121
                                                                                                                                                                                         TTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGGTGCTTGCACC
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                                                                                            TGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTGTCCAGAAGTGGGGGGATAA
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ilarity 97.6%;
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/mol_type="genomic DNA"
/db_xref="taxon:52441"
                                                                                                                                                                                                                                                                                                                                                                                                              /product="16S ribosomal RNA"
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ne, partial sequence.
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Purkhold, U., Pommerening-Roser, A., Juretschko, S., Schmid, M.C., Roops, H.P. and Wagner, M.
Roops, H.P. and Wagner, M.
Phylogeny of all recognized species of ammonia oxidizers based comparative 16S rRNA and amoA sequence analysis: implications f molecular diversity surveys
Mppl. Environ. Microbiol. 66 (12), 5368-5382 (2000)
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Nitrosomonas sp. Nm51
Bacteria, Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; Nitrosomonas.
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Nitrosomonas sp. NM 51
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840	781 CTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA	
780 800	721 GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC	
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680	601 TGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	
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540 560	481 TACGTGCCAGCAGCCGCGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT	
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Search completed: April 6, 2006, 23:44:34 Job time : 7527 secs

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1115025D0	BOOAS16TR	BOGNK19TR	1115107G1	BOOAB81TR	BOGHZ90TF	BOMIVOSTF	BOGZN83TF	BOGVP36TR	USDA-FP_1	BONII25TR	aof01-2ms	ВJ279543	aof01-13m	BONNV72TF	LERAP36TR	BONKR59TR	BONHE54TF	BONKOISTF	BONKP76TR	BONKQ28TF	IDOAAAICE	10000

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VERSION KEYWORDS SOURCE ORGANISM REFERENCE AUTHORS ORIGIN FEATURES COMMENT ACCESSION DEFINITION TITLE JOURNAL Matches 1106; Query Match Best Local Similarity source Tel: 33 1 34 65 25 16 Fax: 33 1 34 65 25 21 Email: sorokine@jouy.inra.fr best homologue in strain IL1403 is ywgA (78%) 1 (bases 1 to 6499) Bolotin,A., Ehrlich,S.D. and Sorokin,A. Studies of genomes of dairy bacteria Lactococcus lactis Sci. Aliments (2002) In press Contact: Sorokin A Lactococcus lactis subsp. cremoris GSS CRJ INRA, Domaine de Vilvert, Genetique Microbienne LLMGtag746 MG1363 Random subsp. cremoris genomic, Class: shotgun Bacteria; Firmicutes; Lactobacillales; Streptococcaceae; BH771024.1 GI:20373981 quality sequence start: 30 quality sequence stop: 6471. Location/Qualifiers Conservative /sub_species="cremoris" /db_xref="taxon:1359" /clone_lib="MG1363 Random Sequence Tag Library" /notee="Vector: pSGMU2; Site 1: SmaI; Library of chromosomal fragments of L.Tactis strain MG1363 was prepared by partial AluI digestion or by sonication." /organism="Lactococcus lactis /mol_type="genomic DNA" /strain="MG1363" . 6499 55.9%; 75.4%; °. Score 813.8; DB Pred. No. 1e-239; 0; Mismatches 34 6499 bp 6499 bp DNA linear GSS 01-MAY-20 Sequence Tag Library Lactococcus lactis genomic survey sequence. 78352 Jouy en Josas cedex, France 347; 9, subsp. Length 6499; Indels cremoris" 14; GSS 01-MAY-2002 Gaps

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                                                                                                                                        CCAGGTCTTGACATACTCGTGCTATTCCTAGAGATAGGAAGTTCCTTCGGGACACGGGAT
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Zhang, J., Feng, Q., Jin, C., Qiu, D., Zhang, L., Xie, K., Yuan, D.,
Han, B., Zhang, Q. and Wang, S.
Features of the expressed sequences revealed by a large-scale
analysis of ESTs from a normalized cDNA library of the elite indica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oryza sativa (indica cultivar-group)
Oryza sativa (indica cultivar-group)
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
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RECm0593 A normalized whole-life-cycle cDNA library of rice Ory
sativa (indica cultivar-group) cDNA clone EI051022, EI053/08,
EI108B17, BI076L19, BI154A06, BI133B10, EI11 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                   Email: shipingwang@hotmail.
Seq primer: T7.
                                                                                                                                                                                                                                                                                                                                                        Contact: Wang S
National Key Laboratory of Crop
Hauzhong Agricultural University
Wuhan 430070, China
Tel: 86-27-87282044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plant J. 42 (5),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rice cultivar Minghui 63 Plant J. 42 (5), 772-780
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                                               /tissue_type="whole plant"
/dev stage="whole-life-cycle"
/lab_host="E. coli pH10B"
/clone_lib="A normalized whole-life-cycle cDNA library
                                       rice"
                                                                                                                               BI133B10, EI11"
/note="Vector: pSPORT1; Site_1:
library is constructed based on
                                                                                                                                                                     /cultivar="Minghui 63"
/db_xref="taxon:39946"
                                                                                                                                                                                                       organism="Oryza sativa/mol_type="mRNA"/strain="indica"
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                                  AGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAACTA
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hybridization with genomic DNA using rice cultivar Minghui 63. This library consists of cDNA from 15 directionally cloned cDNA libraries constructed with different tissues from 9 developmental stages."
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7250 Kuo Kuany ...,

Fax: 886-4-2287-1885

Fax: 886-4-2287-4879

Email: bylin@dragon.nchu.edu.tw
                                                                                                                                                                            Conteact: Bor-yaw Lin
Department of Molecular Biology
National Chung Heing University
250 Kuo Kuang Rd, Taichung 402,
                                                                                                                                                                                                                                        Cloning and characterization of maize derived from microdissection Genetics 164 (1), 299-310 (2003) 12750341
                                                                                                     Insert Length: 1143
Class: PCR fragment
                                                                                                                                                                                                                                                                                                   1 (bases 1 to 1143)
Cheng, Y.M. and Lin, B.Y.
                                                                                                                                                                                                                                                                                                                             Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoldeae; Andropogoneae; Zea.
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/organism="Zea mays"
/mol type="genomic DNA"
/cultivar="L289"
/db xref="taxon:4577"
/clone="pBPC15"
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/cell_type="Pollen mother
/dev_stage="Meiosis I"
/lab_host="DH5alpha"
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genomic survey sequence.
BE439740
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S., Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fax: 301-838-0208
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GCAGTGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAA
                                                                                                                                                                                                                                                                                                                                GATCCAGCAATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAG
                                                                            GAATTGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGGAGGTGGAATTCCATGTGTA
                                                                                                                               GCGTAAAGGGTGCGCAGGCGCTTTGTAAGTCAGATGTGAAAATCCCCGGGCTTAACCTGG
                                                                                                                                                                                          TAACTACGTGCCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGG
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                                             GACAGGCGGTGGAAACTAACCAGCTTGAGTACGGTAGGGGCAGAGGGGAATTTCCGGTGGA
                                                                                                           GCGTAAAGCGTCTGTAGGTGGCTTTTTAAGTCCGCCGTCAAATCCCAGGGCTCAACCCTG
                                                                                                                                                                        TAACTCTGTGCCAGCAGCCGCGTAATACAGAGGATGCAAGCGTTATCCGGAATGATTGG
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/note="Vector: pHOS1; Site_1:
total_DNA inserted into pHOS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Brassica ole
/mol_type="genomic DNA"
/strain="TO1000DH3"
/db_xref="taxon:3712"
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                                                                         Nicotiana benthamiana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
seterids; lamiids; Solanales; Solanaceae; Nicotiana.

1 (bases 1 to 941)
Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B.,
Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana
Unpublished (2003)
Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr. Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                                                                                                                           941 bp mRNA linear EST 02-AUG-20
EST759211 Nicotiana benthamiana mixed tissue cDNA library,
normalized, full-length Nicotiana benthamiana cDNA clone NBMD226
end, mENA sequence.
Email: potato-array@tigr.org
Clones can be requested from the University of Arizona Genomics
Institute via http://genome.arizona.edu/orders/.
Seq primer: ATT TAG GTG ACA CTA TAG.
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      TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT 720
                                                                                                                         AAAGCGCGCGTAGGTTGGTTAAGTTGAATGTGAAATCCCCGGGCTCAACCTGGGAAC
                                                                                                                                              AAAGGGTGCGCAGGCGCTTTGTAAGTCAGATGTGAAATCCCCCGGGCTTAACCTGGGAAT
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nilarity 81.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue type="abiotic and biotic stress-treated leaves, callus tissue and root tissue"

/lab host="NH10B-TonA"

/clone lib="Nicotiana benthamiana mixed tissue cDNA

library, normalized, full-length"

/note="Vector: pcMVSport6.1; Site_1: EcoRI; Site_2: NotI;

supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-stressed leaves (3 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (Pseudomonas syringae pv tomato 12 hr;
Xanthomonas campestris pv campestris 12 hr, 18hr;
Yanthomonas campestris pv campestris 12 hr, 18hr;
Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv vesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
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/mol_type="mRNA"
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/clone="NBMD226"
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Pred. No. 1.8e-185;
0; Mismatches 172;
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Gaps

77

137

197

617 600

557 540 497 480 437

677

420

360 317 257 240

, pp -	Query Match Best Local Matches 83	source ORIGIN	מדודה	TITLE JOURNAL PUBMED COMMENT	SOURCE ORGANISM PREFERENCE REFERENCE AUTHORS	RESULT 6 BZ447500/C LOCUS DEFINITION ACCESSION VERSION KEYWORDS	. da 4a	2 8 8 8 8
200 GGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTACCAAGGCGACGATCAGTAGT 259	atch 43.5%; Score 633.2; DB 9; Length 1053; cal Similarity 77.2%; Pred. No. 4.9e-184; 831; Conservative 0; Mismatches 218; Indels 27; Gaps 4;		TIGR 9712 Medical Center Drive, Rockville, MD 20850, USA. Tel: 301-838-3523 Fax: 301-838-0208 Email: cdtown@tigr.org DNA is from a doubled haploid provided by Tom Osborn. Seq primer: TR Class: sheared ends.	K.T.R., Wortman, J.R., White, O.R. and Tonome shotgun sequencing of Brassica olion to gene discovery and annotation in es. 15 (4), 487-495 (2005) Se: BONKP40TF Chris Town	-	BZ447500 1053 bp DNA linear GSS 13-DEC-2002 N BONKF40TR BO_1.6_2_KB_tot Brassica oleracea genomic clone BONKF40, genomic survey sequence. BZ447500 BZ447500.1 GI:26712943 GSS.	91 GCACAAGCGGTGGAGTAT 941 917 GCACAAGCGGTGGAGTAT 941	
RESULT 7 BZ431523/c LOCUS DEFINITION ACCESSION VERSION	Db Qy	D Q D Q D	νο ν ο σ ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο	Qy Db	Q	Q	9	3 8 8 8 8
/c BZ431523 1010 bp DNA linear GSS 13-DEC-2002 ON BONHD88TF BO 1.6 2-KB tot Brassica oleracea genomic clone BONHD88, genomic survey sequence. N BZ431523 BZ431523.1 GI:26677909	1217 GAGGGTTGCCAACCCGCGAGGGGAGCTAATCTCAGAAAGCGCGTCGTAGTCCGGA 1272	236 TCGTGCCGTAAGGTGTGAGTTAAGTCCCCGAACGACCAACCA	356 TGTGGTTTAATTCGATGCAAAGCGAAAACCTTACCAAGGCTTGACATGCCTGGAATCCT 297 978 CTAGAGATAGATAGTG-CTTCGGGAAACGCTAACACAGGTGCTGGCATGGCTGCAGC 1036	476 CGCTGTGCGTATCGACCCGTGCAGTGCTGAGCTAACGCGTTAAGTATCCCGCCCTGGGGA 417 858 GTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCCGCACAAGCGGTGGATTA 917	GTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCCCTAAACGATGTCAACTAGT	620 CTAGAGTGTGGCAGAGGGAGGTGGAATTCCATGTGTAGCAGTGAAATGCGTAGAGATATG 679	•	320 GCAGCAGTGGGGAATTTTTGGACAATGGGCGCAAGCCTGATCCAGCAATGCCGCGTGAGTG 379

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Best Local Similarity 77.9
Matches 805; Conservative
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Brassica ole
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Location/Qualifiers
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DNA is from a doubled haploid provided
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ATGGCGAAGGCAGCCTCCTGGGTTAACACTGACGCTCATGCACGAAAGCGTGGGGAGCAA
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301-838-0208
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/clone=1ib="BO_1.6 2_KB_tot"
/note="Vector: pHOS1; Site 1: BstXI; 1.6-2 kb sheared
total DNA inserted into pHOS1 using BstXI linkers"
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|mol_type="genomic DNA"
|strain="TO1000DH3"
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Pred. No. 2.3e-182;
0; Mismatches 202;
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mer: TF sheared ends. Location/Qual 1. 1079 /organism="B1/mol_type="ge	FEATURES source
9712 Medical Center Drive, Rockville, MD 20850, USA. 77el: 301-838-3523 7ear: 301-838-0208 Email: cdcwm@tigr.org DNA is from a doubled haploid provided by Tom Osborn.	
15805490 Other GSSs: BOMKA47TR Contact: Chris Town	
tion in Arabidopsis	F-
Ayele,M., Haas,B.J., Kumar,N., Wu,H., Xiao,Y., Van Aken,S., Utterback,T.R., Wortman,J.R., White,O.R. and Town,C.D.	AUTHORS
Eukaryota; Viridiplantae; Streptopnyta; Embryopnyta; Iracheopnyta Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons rosids; eurosids II; Brassicales; Brassicaceae; Brassica. 1 (hages 1 to 1079)	ER BNCE
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05272 05272 GI:1878774	ACCESSION VERSION
BH705272 BH705272 BH705272 BOMKA47TF BO_2_3 KB Brassica oleracea genomic clone BOMKA47, Genomic survey semiance	RESULT 8 BH705272 LOCUS DEFINITION
3 TCCCGCAAGGTG 1	Db 1
8 ACCCGCGAGGGG 1240 .	Qy 122
73 TCATGCCCCTTATGCCCTGGGCGACACACGTGCTACAATGGCCGGGACAAAGGGTCGCGA 14	망
œ	Оу 116
3 TGGAACCCTGAACAGACTGCCGGTGATAAGCCGGAGGAAGGTGAGGATGACGTCAAGTCA 74	Db 133
œ	Ογ 110
8 GATGTTGGGTTAAGTCCCGCAACGAGCGCAACCCTTGTCATTAATTGCCATCATTTGGTT 110	Qy 1048 Db 193
GGGTGCCTTCGGGAACGCGGACACAGGTGGTGCATGGCTGTCAGCTCGTGCCGTAA	Db 25
3 TCGATGCAAAGCCAAAGACCITACCAGGGCTIGACAIGCCGCGAAICCICITAGAAAGAGC 104 ANDTERFORMANACCAAAGACAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGA	Db 31
TCGATGCAACGCGAAAAACCTTACCTACCCTTGACATGTAGGGAATTTTCTAGAGATAGA 9	· w
9 AGATTAAAACTCAAAGGAATTGACGGGGACCCGCACAAGCGGTGGATTATGTGGATTAAT 928	Qy 86 Db 37
3 TCGACCCGTGCAGTGCTGAGCTAACGCGTTAAGTATCCCGCCTGGGGAGTACGTTCGCA 37	
11 ATTAGGCTTGGTAACGAAGCTAACGCGTGAAGTTGACCGCCTGGGGAGTACGGTCGCA 86	о _У
ACAGATTAGATACCCTGATAGTCCAGCCCTAAACGATGCATAGTCAGCAGTAGATAGTGCAGTAGTCCTAGCCGTAAACGATGGATACTAGGCGCTGTGCGTA 43	Db 49
ר הבני לוני לוני לי היה לי ביה לי היה ליה לי היה לי ה	
3 ACGGCGAAAGCACTCTGCTGGGCCGACACTGACACTGAGAGACGAAAGCTAGGGGAGCGA 49	Dh 55

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                                                                                                                                                                                                     904 CAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCTTACCTTGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186 TGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTACCAAGG
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                                                     TGGCTGTCAGCTCGTGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAACCCT
                                                                                                                                ATGTAGCGAATTTTCTAGAGATAGATTAGTG-CTTCGGGAACGCTAACACAGGTGCTGCA
                                                                                                                                                                                                                                    ATCCCGCCTGGGGAGTACGTTCGCAAGAATGAAACTCCAAGGAATTGACGGGGGCCCGCA
                                                                                                                                                                                                                                                                    TGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCCGCA
                                                                                                                                                                                                                                                                                                                                       CGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTG--GTAACGAAGCTAACGCGTGAAGT
                                                                                                                                                                                                                                                                                                                                                                           TGAGAGACGAAAGCTAGGGAAGCGAATGGGATTAGATACCCCAGTAGTCCTAGCCGTAAA
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TGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCGGA 1142
                                 TGGCTGTCGTCAGCTCGTGCCGTAAGGTGTTGGGGGTAAGTCCCGCAACGAGCGCAACCCT
                                                                                                                                                                                                                                                                                                         CGATGGATACTAGGCGCTGTGCGTATCGACCCGTGCAGTGCTGTAGCTAACGCGTTAAGT
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/db_xref="taxon:3712"
/clone="BoxK447"
/clone lib="P0 2 3 KB"
/note="Vector: pHOS1; Site_1: BstXI; 2-3 kb
genomic DNA inserted into pHOS1 using BstXI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42.7%;
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Pred. No. 1.3e-180;
0; Mismatches 223;
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PUBMED
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Best Local Similarity
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                                                                                                                                                                                                                                                     810;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BZ426201 1016 bp
BONDZ28TF BO 1.6_2_KB_tot Brassica
genomic survey sequence.
BZ426201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cdtown@tigr.org
DNA is from a doubled |
Seq primer: TF
Class: sheared ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Other_GSSs: BONDZ28TR
Contact: Chris Town
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids II; Brassicales; Brassicaceae; Brassica.

1 (bases 1 to 1016)
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GSS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fax: 301-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15805490
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGC 1243
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                   AAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGAAAAGGTTACGGTAAATAAT
                                                                                                                                         TGGTCTGAGAGGACGACCAGCCACACTGGGACCTGGAGACACGGCCCAGACTCCTACGGGAG
                                                                                                                                                                                                          TAGAAGGCCTACGGGTCCTGAACTTCTTTTCCCAGAGAAGA-
                                                                                           GCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATCCAGCAATGCCGCGTGAGTG
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                                                                                                                          TEGTCCGAGAGGATGATCAGCCACACTGGGACTGAGACACGGCCCAGACTCCTACGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Medical Center Drive,
                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                  /clone_lib="BO_1.6_2_KB_tot"
/note="Vector: pHOS1; Site_1:
total_DNA_inserted_into_pHOS1
                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Brassica oleracea"
/mol_type="genomic DNA"
/strain="TO1000DH3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                  /clone="BONDZ28"
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78.0%;
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Pred. No. 1.6e-180;
0; Mismatches 202;
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BH656222/c
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Brassica oleracea
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
roside; euroside II; Brassicales; Brassicaceae; Brassica.
1 (bases 1 to 1031)
Ayele,M., Haas,B.J., Kumar,N., Wu,H., Xiao,Y., Van Aken,S.,
                                                                                                                                                                                      BH656222 1031
BOMJZ86TF BO_2_3_KB Brassica
                                                                                                                                                         genomic survey
BH656222
                                                                                                       Brassica oleracea
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                                                                                                                                                                                                                                                                                                                       GAGGGTTGCCAACCCGCGA 1235
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Tel: 301-838-3523
Fax: 301-838-0208
Email: cdtown@rigr.org
DNA is from a doubled haploid p
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Email: cdtown@tigr.org
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Contact: Chris Town
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Ake
Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
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Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
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                                                                                                                                                                                                                                                                                                         Medical Center Drive, 301-838-3523
                                                                                                                                   /organism="Brassica oleracea"
/mol_type="genomic DNA"
/strain="TO1000DH3"
                                                                                                                                                                                        Location/Qualifiers
1. .1077
                                               /clone="BONBQ63"
/clone_lib="BO_1.6_2_KB_tot"
/note="Vector: pHOS1; Site_1:
total_DNA_inserted_into_pHOS1
                                                                                                                     db_xref="taxon:3712"
 42
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 Score 615.2;
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                                                     CGTACCTTAACCCGCAGGAGGGGGGGGTGCCGAAGGCAGGGCTAGTGACTGG
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                                                                                                                        CGTTCCCGGGCCTTGTACACACCGCCCGTCACACTATGGGAGCTGGCCATGCCCGAAAGT
                                                                                                                                                                                        ACTCGCCTGCATGAAGCCGGAATCGCTAGTAATCGCCGGTCAGCCATACGGCGGTGAATT
                                                                                                                                                                                                                                                           CGATCCCGCGAGGGTGAGCTAACTCCAAAAAACCCGTCCTCAGTTCGGATTGCAGGCTGCA
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S.,
Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
Whole genome shotgun sequencing of Brassica oleracea and its
application to gene discovery and annotation in Arabidopsis
Genome Res. 15 (4), 487-495 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brassica oleracea
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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BZ463550.1 GI:26749465
GSS.
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Contact: Chris Town
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                     CTTATTAGGCTTG--GTAACGAAGCTAACGCGTGAAGTTGACCGCCTGGGGAGTACGGTC
                                                                                    CAAACAGGATTAGATACCCTGGTAGTCCACGCCCTAAACGATGTCAACTAGTTGTTGGGC
                                                                                                                                   CCAACGGCGAAAGCACTCTGCTGGGCCGACACTGACACTGAGAGACGAAAGCTAGGGGAG
 GTATCGACCCGTGCAGTGCTGTAGCTAACGCGTTAAGTATCCCGCCTGGGGGAGTACGTTC
                                                                                                                                                        TCGATGGCGAAGGCAGCCTCCTGGGTTAACACTGACGCTCATGCACGAAAGCGTGGGGAG
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is from a doubled haploid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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/clone_lib="BO_1.6_2_KB_tot"
/note="Vector: pHOS1; Site_1: BstXI; 1.6-2 kb sheared
total DNA inserted into pHOS1 using BstXI linkers"
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|mol_type="genomic DNA"
|strain="TO1000DH3"
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78.5%;
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Pred. No. 7.6e-178;
0; Mismatches 208;
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               Seq primer: TR
Class: sheared ends.
                                 Email: cdtown@tigr.org
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S.,
Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
Whole genome shotgun sequencing of Brassica oleracea and its
application to gene discovery and annotation in Arabidopsis
Genome Res. 15 (4), 487-495 (2005)
                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; core colids; eurosids II; Brassicales; Brassicaceae; Brassica.
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Brassica oleracea
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BONHR54TR BO_1.6_2_KB_tot Brassica
                                                                                                9712 Medical Center Drive,
Tel: 301-838-3523
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/clone_lib="BO_1.6_2 KB_tot"
/note="Vector: pHOS1; SIte_1
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/strain="TO1000DH3"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: potato-array@tigr.org
Clones can be requested from the University of Arizona
Institute via http://genome.arizona.edu/orders/
Seg primer: ATT TAG GTG ACA CTA TAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2003)
Other_ESTs: EST743250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; asterids; lamiids; Solanales; Solanaceae; Nicotiana.

1 (bases 1 to 889)
Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B., Staskawicz, B., Jin, H. and Baker, B.

Generation of EST sequences from Nicotiana benthamiana
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889 bp mRNA linear EST 02

EST743249 Nicotiana benthamiana mixed tissue cDNA library,
normalized, full-length Nicotiana benthamiana cDNA clone N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr, Rockville,
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   CTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGGTA
                                                ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGATGCTTGCAT
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                                                                                                   Conservative
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/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
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                                                                                                 Score 601.4; DB 7;
Pred. No. 3.3e-174;
0; Mismatches 161;
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RESULT 15
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AUTHORS
       COMMENT
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; asterids; lamiids; Solanales; Solanaceae; Nicotiana.

1 (bases 1 to 884)
Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B., Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana Unpublished (2003)
Other_ESTs: EST743249
                                                                                                                                                    Nicotiana benthamiana
Nicotiana benthamiana
                                                                                                                                                                                                                                       CK280528 10-AUG-20 EST743250 Nicotiana benthamiana mixed tissue CDNA library, normalized, full-length Nicotiana benthamiana cDNA clone NBMA117 end, mRNA sequence.
                                                                                                                                                                                                       CK280528.1 GI:39850200
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Matches 705
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Clones can be requested from the University of Institute via http://genome.arizona.edu/orders/Seg primer: CAG GAA ACA GCT ATG ACC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: potato-array@tigr.org
                                                                                                /lab_host="DH10B-TonA"
/clone lib="Nicotiana benthamiana mixed tissue cDNA
/clone lib="Nicotiana benthamiana mixed tissue cDNA
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supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-stressed leaves (38 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (Pseudomonas syringae pv tomato 12 hr;
Xanthomonas campestris pv campestris 12 hr, 18hr;
Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv vesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
amounts."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="abiotic acallus tissue and root
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Nicotiana benthamiana"
|mol_type="mRNA"
|db_xref="taxon:4100"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone="NBMA117"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and biotic stress-treated tissue"
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Length
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541 498 481 438 421 378 361 318 301 258 241 198 181 138 121 78 61 18 Similarity AAAGGGTGCGCAGGCGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT TACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT CAGCAATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA GCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATC GGCCTTGCGCTATCAGATGAGCCTAGGTCGGATTAGCTAGTTGGTGAGGTAATGGCTCAC GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGGTAAAGGCCTAC CTGGTGGCGAGTGGCGGACGGGTGAGTGATGCATCGGAACGTATCCAGAAGAGGGGGGGTA 120 TCTGTGCCAGCAGCCGCTAATACAGAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT AAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC GTCCAGACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGAAAGCCTGATC CAAGGCGACGATCCGTAACTGGTCTGAGAGGATGATCAGTCACACTGGAACTGAGACACG **ACGCTCGGAAACGGACGCTAATACCGCATACGTCCTACGGGAGAAAGCAGGGGACCTTCG** ACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGGATCGAAA CTGGTGGCGAGCGGGGGGGGGGAGTAATGCCTAGGAATCTGCCTGGTAGTGGGGGATA ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGATGCTTGCAT AGGGCAGTTACCTAATÁCGTGATTGTTTTGÁCGTTACCGÁCÁGAATÁAGCACCGGCTAAC ATTGAACGCTGGCGGCAGGCCTAACACATGCAAGTCGAGCGGCAGCACGGGTACTTGTAC 41.0%; llarity 81.3%; Conservative 0 Score 597.4; DB 7; Pred. No. 5.7e-173; D; Mismatches 161; 1; Gaps 540 240 557 497 480 420 360 300 257 197 137 77 437 317

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sw model nucleic search, using OM nucleic

April Run on:

6, 2006, 21:18:52; Search time 937 Seconds (without alignments) 10363.348 Million cell updates/sec

US-10-659-948A-1 1457 Title: Perfect score:

1 attgaacgctggcggcatgc......tgagattcatgactggggtg 1457 Sequence:

IDENTITY NUC Gapop 10.0 , Gapext:1.0 Scoring table:

9993994 Total number of hits satisfying chosen parameters:

4996997 segs, 3332346308 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

N_Geneseq_21:* Database :

geneseqn2002as:*geneseqn2002bs:*geneseqn2003as:*geneseqn2003bs:* geneseqn2003cs: geneseqn2003ds: geneseqn2004as: geneseqn2001as:* geneseqn2001bs:* geneseqn2004bs: geneseqn20058:* geneseqn1980s:* geneseqn1990s:* geneseqn2000s:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SIMMARIES

		Description	Aba02416 Type A am	Adm32704 AOB Type	Aba02417 Type Al a	Adm32705 AOB Type	Adm32723 AOB BF16c	Adm32722 AOB P4clo	Adm32721 AOB P4clo	Aba02418 Type B am	Adm32706 AOB Type	Aba02419 Type C am	Adm32707 AOB Type	. Aac86030 16s rDNA,	Abq78660 Nucleotid	Aac86026 16s rDNA,	Ab140355 Sequence	Aac86028 16s rDNA,	Aac86024 R.tenuis	Adr45500 16S rRNA	Aac86022 R. tenuis
SUMMAKIES		αī	ABA02416	ADM32704	ABA02417	ADM32705	ADM32723	ADM32722	ADM32721	ABA02418	ADM32706	ABA02419	ADM32707	AAC86030	ABQ78660	AAC86026	ABL40355	AAC86028	AAC86024	ADR45500	AAC86022
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		Score	1457	1457	1452.2	1452.2	1391.6	1359.2	1358.8	1287.6	1287.6	1230.2	1230.2	1206.4	1197.2	1194	1190.8	1181	1179.2	1161	1156.8
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79.3	79.1	79.1	78.8	78.5	78.5	78.4	78.3	78.1	78.1	78,1	78.1	77.8	77.7	77.6	77.5	77.5	77.4	77.4	77.3	77.3	77.2	77.2	77.2	77.2	77.2
1155.8	1152.4	1152.4	1148.8	1143.8	1143.8	1142	1141.2	1138.4	1138.4	1137.6	1137.2	1133	1131.4	1130.6	1129.8	1129.2	1128.2	1127.6	1126.8	1126	1124.8	1124.6	1124.6	1124.6	1124.6
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ALIGNMENTS

ABA02416 standard; DNA; 1457 BP. (revised)
(first entry) 29-AUG-2003 04-MAR-2002 ABA02416; RESULT 1 ABA02416

Type A ammonia-oxidising bacterium 16S rRNA gene sequence, R7clone140.

Type A; ammonia-oxidising bacterium; AOB; nitrite; 16S rRNA gene; ribosomal RNA; aquarium; aquaculture; waste water treatment; bioremediation; ds.

Nitrosomonadales.

WO200190312-A1.

17-MAY-2001; 2001WO-US016265. 29-NOV-2001.

19-MAY-2000; 2000US-00573684.

(AQUA-) AQUARIA INC.

Hovanec TA, Burrell PC;

WPI; 2002-075367/10.

New bacteria capable of oxidizing ammonia to nitrite, for preventing or alleviating the accumulation of ammonia in fresh water aquaria, seawater aquaria and waste water.

Claim 2; Page 5; 62pp; English.

The invention relates to 4 novel types of ammonia-oxidising bacteria (AOB) found in freshwater aquaria. The bacteria are able to oxidise amonia to nitrite and are members of the ammonia to oxidising bacteria family of the beta subdivision of Proteobacteria. The 4 types of bacteria can de distinguished on the basis of their 168 rRNA (ribosomal RNA) gene

Fri Apr

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sequences (ABA02416-ABA02419), and are classified as AOB type A (e.g., R7clone187), type B (e.g., R3clone5) and type C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA gene sequences of the ammonia-oxidising bacteria of the invention, oligonuclectide probes and primers for the detection of these bacteria, are compositions comprising the bacteria. The bacteria of the invention both freshwater and seawater aquaria. They may also be used in waste both freshwater and seawater aquaria. They may also be used in waste pollution caused by ammonia. The present sequence the level of pollution caused by ammonia. The present sequence represents R7clone140, a 16S rRNA gene sequence from the type A ammonia-oxidising bacterium of the invention. (Updated on 29-AUG-2003 to standardise OS field)
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                                                                                                                                      Disclosure; Page 8-9; 98pp; English
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                                          WPI; 2004-304936/28.
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                       Burrell PC;
                            WPI; 2002-075367/10.
                  (AQUA-) AQUARIA INC
            19-MAY-2000;
                       Hovanec TA,
  29-NOV-2001
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The invention relates to 4 novel types of ammonia-oxidising bacteria

(AOB) found in freshwater aquaria. The bacteria are able to oxidise

ammonia to nitrite and are members of the ammonia-oxidising bacteria

family of the beta subdivision of Proteobacteria. The 4 types of bacteria

can de distinguished on the basis of their 16S rRNA (ribosomal RNA) gene

sequences (ABA02416-ABA02419), and are classified as AOB type A (e.g.,

R7clone140), type A1 (e.g., R7clone187), type B (e.g., R3clone5) and type

C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

c gene sequences of the ammonia-oxidising bacteria of the invention,

c oligonucleotide probes and primers for the detection of these bacteria,

and compositions comprising the bacteria. The bacteria of the invention

are useful in biological filters for reducing ammonia accumulation in

both freshwater and seawater aquaria. They may also be used in waste

both freshwater and seawater aquaria. They may also be used in waste

c pollution caused by ammonia. The present sequence represents R7clone187,

a 16S rRNA gene sequence from the type A1 ammonia-oxidising bacterium of

the invention. (Updated on 29-AUG-2003 to standardise OS field) New bacteria capable of oxidizing ammonia to nitrite, for preventing or alleviating the accumulation of ammonia in fresh water aquaria, seawater aquaria and waste water. Claim 2; Page 6; 62pp; English.

Sequence 1457 BP; 379 A; 317 C; 455 G; 306 T; 0 U; 0 Other;

ô CTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGGTA 120 240 CAAGGCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACCACTGGGACTGAGACACGG 300 GCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATC 360 GCCCAGACTCCTACGGGAGGCAGCAGTGGGGGAATTTTGGACAATGGGCGCAAGCCTGATC 360 421 AAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC 480 CTGGTGGCGAGTGGCGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGTA 120 ACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGATCGAAA 180 CAGCAATGCCGCGTGAGTGAAGAAGCCTTCGGCTTGTAAAGCTCTTTCAGTCGAGAAGA 420 1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGATGCTTGCAT 60 GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTAC GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTAC Length 1457; ö 3; Indels 99.7%; Score 1452.2; DB 6; llarity 99.8%; Pred. No. 0; Conservative 0; Mismatches 3; Similarity Best Local Sim Matches 1454; 121 241 61 21 181 181 241 301 361 361 Query Match 301 셤 셤 음 셤 ò Š ઠે ద ઠે ò ਨੇ

RESULT 4 ADM32705

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  * composition comprising an isolated bacterial strain that oxidizes
nonia to nitrite, useful for alleviating or preventing the accumulation
ammonia in aqueous environment.
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                                                                                                                                                                                   16S rDNA; ammonia oxidising bacteria; AOB; ammonia; nitrite; aqueous environment; freshwater; seawater; aquarium; ss.
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ive 0; Mismatches
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  BP
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  standard; DNA; 1457
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19-SEP-2002; 2002US-0386219P.
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environment, freshwater, seawater, aquarium, se.
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Best Local Similarity 97.6%; Pred. No. 0;
Matches 1423; Conservative 0; Mismatches
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Pred. No. 0;
0; Mismatches
                                                                                                                                                              AGATTCATGACTGGGGTG 1457
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19-SEP-2002; 2002US-0386218P.
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                                                                                                                         TGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTG 1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence represents a 16S rDNA sequence derived from an ammonia oxidising bacteria (AOB). This sequence may be used in a composition which comprises an isolated bacterial strain that oxidizes ammonia to nitite. The composition may be used for alleviating or preventing the accumulation of ammonia in a medium. The ammonia is reduced by at least 30% when compared with a level of ammonia that would exist in the absence of the bacterial strain. The composition is useful for alleviating or preventing the accumulation of ammonia in aqueous environment, e.g. a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New composition comprising an isolated bacterial strain that oxidizes ammonia to nitrite, useful for alleviating or preventing the accumulation of ammonia in aqueous environment.
                 GTCGTAGTCCGGATCGGAGTCTGCAACTCGGTGAAGTCGGAATCGCTAGTAATCG
                                                                                                                                                                                                                                                                                                               v. ammonia oxidising bacteria; AOB; ammonia; nitrite;
environment; freshwater; seawater; aquarium; 88.
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19-SEP-2002; 2002US-0386218P.
19-SEP-2002; 2002US-0386219P.
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Query Match Best Local Similarity

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                                                                   GTCGTAGTCCGGATCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCG 1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bacteria capable of oxidizing ammonia to nitrite, for preventing or alleviating the accumulation of ammonia in fresh water aquaria, seawater aquaria and waste water.
                                        GGAGGAAGGTGGGGTGAACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACATA
                                                                               GTCGTAGTCCGGATCGGAGTCTGCAACTCGAACTCCGTGAAGTCGGAATCGCTAGTAATCG
                                                                                                                                                                                         TGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTG
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                                                                                                                                                 CGGATCAGCATGTCGCGGTGAATACGTTCCCCGGGTCTTGTACACACCGCCCGTCACACCA
                                                                                                                                                                     Type B ammonia-oxidising bacterium 16S rRNA gene sequence, R3clone5.
                                                                                                                                                                                                                                                                                                                                                                                            Type B; ammonia-oxidising bacterium; AOB; nitrite; 16S rRNA ribosomal RNA; aquarium; aquaculture; waste water treatment; bioremediation; ds.
                                                                                                                                                                                                                                                                                                      BP.
                                                                                                                                                                                                                                  AGATTCATGACTGG 1453
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The invention relates to 4 novel types of ammonia-oxidising bacteria (AOB) found in freshwater aquaria. The bacteria are able to oxidise ammonia to nitrite and are members of the ammonia-oxidising bacteria family of the beta subdivision of Proteobacteria. The 4 types of bacteria can de distinguished on the basis of their 165 rRNA (ribosomal RNA) gene sequences (ABA02416-ABA02419), and are classified as AOB type A (e.g.,

Claim 2; Page 7; 62pp; English.

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R7clone140), type Al (e.g., R7clone187), type B (e.g., R3clone5) and type C (e.g., R3clone47). The invention also encompasses isolated 16S TRNA gene sequences of the ammonia-oxidising bacteria of the invention, oligonucleotide probes and primers for the detection of these bacteria, and compositions comprising the bacteria. The bacteria of the invention both freshwater and seawater aquaria. They may also be used in waste water treatment and in bioremediation processes to reduce the level of pollution caused by ammonia. The present sequence represents R3clone5, a 16S rRNA gene sequence from the type B ammonia-oxidising bacterium of the invention. (Updated on 29-AUG-2003 to standardise OS field)
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                                                                                                                                                                                                                                   Score 1287.6; DB 6; Length 1458;
Pred. No. 0;
0; Mismatches 89; Indels 5;
                                                                                                                                                                                                     Seguence 1458 BP; 368 A; 342 C; 466 G; 282 T; 0 U; 0 Other;
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Best Local Similarity 93.6%;
Matches 1366; Conservative 6
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This sequence represents a 16S rDNA sequence derived from an ammonia oxidising bacteria (ADB). This sequence may be used in a composition which comprises an isolated bacterial strain that oxidizes ammonia to nitrite. The composition may be used for alleviating or preventing the accumulation of ammonia in a medium. The ammonia is reduced by at least 50% when compared with a level of ammonia that would exist in the absence of the bacterial strain. The composition is useful for alleviating or preventing the accumulation of ammonia in aqueous environment, e.g. a
                                                            New composition comprising an isolated bacterial strain that oxidizes ammonia to nitrite, useful for alleviating or preventing the accumulation of ammonia in aqueous environment.
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Pred. No. 0;
0; Mismatches
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Matches 1366; Conservative
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               AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC
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19-SEP-2002; 2002US-0386218P.
19-SEP-2002; 2002US-0386219P.
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17-MAY-2001; 2001WO-US016265 19-MAY-2000; 2000US-00573684

29-NOV-2001

Hovanec TA, Burrell PC; WPI; 2002-075367/10.

(AQUA-) AQUARIA INC.

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                                                                                           <u> AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC</u>
                                                                                                                                            Type C ammonia-oxidising bacterium 16S rRNA gene sequence, R3clone47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Type C; ammonia-oxidising bacterium; AOB; nitrite; 16S rRNA gene; ribosomal RNA; aquarium; aquaculture; waste water treatment; bioremediation; ds.
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The invention relates to 4 novel types of ammonia-oxidising bacteria

(AOB) found in freshwater aquaria. The bacteria are able to oxidise
ammonia to nitrite and are members of the ammonia-oxidising bacteria

(C amily of the beta subdivision of Proteobacteria. The 4 types of bacteria

(C and edistinguished on the basis of thair 16S rRNA (ribosomal RNA) gene

(C R7clone140), type Al (e.g., R7clone187), type B (e.g., R3clone5) and type

(C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

(C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

(C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

(C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

(C (e.g., R3clone47). The invention of these bacteria,

(C (e.g., R3clone47). The invention also encompasses isolated 16S rRNA

(C (e.g., rad compositions comprising the bacteria of the invention in

(C obth freshwater and seawater aquaria. They may also be used in waste

(C water treatment and in bioremediation processes to reduce the level of

(C pollution caused by ammonia. The present sequence represents R3clone47, a

(C (e.g., RNA) gene sequence from the type C ammonia-oxidising bacterium of the

(C (e.g., RNA) gene sequence from the type C ammonia-oxidising bacterium of the
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                                                                                                                                                                                                                                     New bacteria capable of oxidizing ammonia to nitrite, for preventing or alleviating the accumulation of ammonia in fresh water aquaria, seawater aquaria and waste water.
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Matches 1351; Conservative
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RESULT 11 ADM32707 ID ADM32707 standard; DNA; 1460

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This sequence represents a 16S rDNA sequence derived from an ammonia oxidising bacteria (AOB). This sequence may be used in a composition which comprises an isolated bacterial strain that oxidizes ammonia to nitrite. The composition may be used for alleviating or preventing the accumulation of ammonia in a medium. The ammonia is reduced by at least 30% when compared with a level of ammonia that would exist in the absence of the bacterial strain. The composition is useful for alleviating or preventing the accumulation of ammonia in aqueous environment, e.g. a
                                                                                                                                                                                                                                                                                                                                                                                                         New composition comprising an isolated bacterial strain that oxidizes ammonia to nitrite, useful for alleviating or preventing the accumulation of ammonia in aqueous environment.
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                                                                                                16S rDNA; ammonia oxidising bacteria; AOB; ammonia; nitrite; aqueous environment; freshwater; seawater; aquarium; ss.
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                                                                   AOB_Type C R5clone47 168 rDNA
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19-SEP-2002; 2002US-0386218P.
19-SEP-2002; 2002US-0386219P.
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                                         (first entry)
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Best Local Simi
Matches 1351;
                                         17-JUN-2004
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358 CAGCCATGCCGCGTGAGTGAAGAAGCCTTCGGGTTGTAGAGCTCTTTTAGTCAGAAGA
                                                                       418 AAGAATCATGAATAAATTATGATTTATGACGGTACTGACAGAAAAAGCACCGGCTAAC
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                                             AAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC
                                                                                                                                  TACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT
                                                                                                                                                             AAAGGGTGCGCAGGCGTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT
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The sequences given in AAC86021-30 represent 16S rDNA sequences from polyphosphate accumulating organisms (BAO8). Sequences which are unique to these 16S rDNA sequences are used to create a probe or primer for to these 16S rDNA sequences are used to create a probe or primer for a cetecting the relevant organisms. The primer/probe sequences are useful cetecting the relevant organisms. The primer/probe sequences are useful for detecting PAO cells in a sample, by treating cells in the sample to fix cellular contents, contacting fixed cells, index probe with the primer/probe which is labelled with a radiolabel, a reporter group or a hapten, under conditions which allow the probe to hybridize with 16S rRNA within the fixed cell, removing unhybridized probe from the fixed cells, and detecting the labeled probe-RNA hybrid by fluorescence in situ hybridization. The primer/probe sequences are useful for identifying PAO8 that are capable of biologically removing phosphorus from waste water sample, can be done using the primer/ probe sequences. They allow quick and convenient assessment of whether a sludge or waste water sample includes PAO8 and allows quantitation of PAO cells in samples. (Updated on 11-SEP-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel oligonucleotide probe or primer useful for detecting polyphosphate accumulating organism in a sample, comprises a sequence that is unique to 16S rDNA of polyphosphate accumulating organisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGGTA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGATGGCGAAGTGGCGAACGGGTGAGTAATGCATCGGAACGTACCCGGAAGTGGGGGATA 127
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                                                                                                                                                                                                                                                                                                                                   rDNA; polyphosphate accumulating organism; PAO; probe; primer;
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82.8%; Score 1206.4; DB 4; Length
Best Local Similarity 90.0%; Pred. No. 0;
Matches 1316; Conservative 0; Mismatches 141; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Crocetti GR, Tyson GW, Blackall LL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CRCW-) CRC WASTE MANAGEMENT & POLLUTION CONTROL.
                                                                                                                                                                                                                                                                                                                                                         detection; phosphorus; waste water; sludge; ss
Claim 4; Fig 3; 54pp; English
                                                                                                                                               AAC86030 standard; cDNA; 1485
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29-AUG-2001
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Microorganism belonging to Denitromonas for removal of nitrogen oxide by reduction of nitrogen oxide to nitrogen in gas or aqueous solution, has specific mycological characters.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1495 BP; 363 A; 350 C; 483 G; 299 T; 0 U; 0 Other;
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(BIOI-) BIOINDUSTRY KYOKAI SH.
(AJIN ) AJINOMOTO KK.
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The sequences given in AAC86021-30 represent 16S rDNA sequences from polyphosphate accumulating organisms (PAOS). Sequences which are unique to these 16S rDNA sequences are used to create a probe or primer for cleecting the relevant organisms. The primer/probe sequences are useful cleecting the relevant organisms. The primer/probe sequences are useful for detecting PAO cells in a sample, by treating cells in the sample to it cellular contents, contacting fixed cells with the primer/probe which is labelled with a radiolabel, a reporter group or a hapten, under conditions which allow the probe to hybridize with 16S rRNA within the fixed cell, removing unhybridized probe from the fixed cells, and detecting the labeled probe-RNA hybrid by fluorescence in situ clecting the primer/probe sequences are useful for identifying PAOS that are capable of biologically removing phosphorus from waste water. The primer primer/ probe sequences. They allow quick sample, can be done using the primer/ probe sequences. They allow quick and convenient assessment of whether a sludge or waste water sample.
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                                                                                                                  CAAGGCGACGATCAGTAGTTGGTCTGAGGACGACCAGCCACACTGGGGACTGAGACACG
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                                                                                                                                                                                                                                                                                                                                                          CATGGGAGTGGGTTTCACCAGAAGTAGGTAGCTTAACCTTCGGGAGGGCGCTTACCACGG
1198 TAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGAGGTAATCTCAGAAAGC
                                       1216 TCATACAATGGTCGGTACAGAGGTTGCCAAGCCGCGAGGTGGAGGCCAATCCCAGAAAGC
                                                                                                                                                            1276 CGATCGTAGTCCGGATTGGAGTCTGCAACTCGACTCCATGAAGTCGGAATCGCTAGTAAT
                                                                                                                                                                                                               CGCGGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACAC
                                                                                                                                                                                                                                                                    1336 CGCGGATCAGCATGCCGCGGTGAATACGTTCCCGGGGTCTTGTACACACCGCCGTCACAC
                                                                                                                                                                                                                                                                                                                          CATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAO; probe; primer;
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                                                                                                      GCGTCGTAGTCCGGATCGGAGTCTGCAACTCGACT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGAGATTCATGACTGGGGTG 1457
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(first entry)
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The invention relates to an oligonucleotide that may be used for detecting Azoarcus sp. strain MA-23, a selenic acid reducing microbe. The current sequence represents a sequence related to an oligonucleotide for the detection of Azoarcus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence related to an oligonucleotide for the detection of Azoarcus sp.
                                                                                                                                               1079 CAACCCTTGTCATTAATTGCCATCATTGAGTTGGGCACTTTAATGAGACTGCCGGTGACA
                                                                                                                                                                                                          1139 AACCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGTTCACA
                                                                                                                                                                                                                                                                        ACCATGGGAGCGGGTTCTGCCAGAAGTAGTTAGCCTAACCGCAAGGAGGGGGATTACCAC
      TTGACATGTAGCGAATTTTCTAGAGATAGATTAGTGCT---TCGGGAACGCTAACACAGG
                               959 TIGACATGICAGGAATCCTGGAGAGATTTTGGGAGTGCTCGCAAGAGAAACCTGAACACAGG
                                                                                              1019 TGCTGCATGGCTGTCGTCAGCTCGTGTGTGAGATGTTGGGTTAAGTCCCCGCAACGAGCG
                                                                                                                             CAACCCTTGTCATTAATTGCCATCATTTGGTTGGCCACTTTAATGAGACTGCCGGTGACA
                                                                                                                                                                                                                                                      GCGCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAGTA
                                                                                                                                                                                                                                                                                                                                                                                  116 ATCGCGGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                               1376 ACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCAC
                                                                 TECTGCATGCCTGTCGTCGTGTCGTGAGATGTTGGGTTAAGTCCCGCAACGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for specific detection of a selenic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Page 6; 7pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGAGATTCATGACTGGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAGGGTTCGTGACTGGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard; DNA; 1464
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                                                                            Query Match 81.9%; Score 1194; DB 4; I
Best Local Similarity 89.9%; Pred. No. 0;
Matches 1315; Conservative 0; Mismatches 140;
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Sequence 1464 BP; 364 A; 338 C; 470 G; 292 T; 0 U; 0 Other;
                         Ouery Match 81.7%; Score 1190.8; DB 6; Length Best Local Similarity 90.2%; Pred. No. 0; Matches 1320; Conservative 0; Mismatches 137; Indels
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Search completed: April 6, 2006, 21:39:02 Job time : 939 secs

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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1457
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1: /SIDS5/ptodata/2/pubpna/US08 NEW PUB.seq:*

2: /SIDS5/ptodata/2/pubpna/US06 NEW PUB.seq:*

3: /SIDS5/ptodata/2/pubpna/US07 NEW PUB.seq:*

3: /SIDS5/ptodata/2/pubpna/PCT_NEW PUB.seq:*
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Gapop 10.0 , Gapext 1.0
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	BG	ID	Description
1	1149.2	78.9	1522	1	US-11-198-242-2 *	Sequence 2, Appli
2	1142.8	78.4	1526	11	US-11-198-242-1	μ,
ω	1089.6	74.8	1405	ø	US-10-515-311-5	Sequence 5, Appli
4	1021.8		1501	9	US-10-513-639-1	Sequence 1, Appli
ហ	1021.2	70.1	1493	ø	US-10-831-286A-48683	Sequence 48683, A
6	1020.2	70.0	1508	ø	US-10-831-286A-48685	Sequence 48685, A
7	1019.8	70.0	1510	9	US-10-831-286A-48680	Sequence 48680, A
8	1019.6	70.0	1494	9	US-10-831-286A-48681	Sequence 48681, A
9	1018	69.9	1507	9	US-10-831-286A-48677	Sequence 48677, A
10	1017	69.8	1508	9	US-10-831-286A-48684	Sequence 48684, A
11	1015.4	69.7	1510	9	US-10-831-286A-48682	Sequence 48682, A
12	1008.4	69.2	1530	ø	US-10-831-286A-48671	Sequence 48671, A
13	1007.2	69.1	1492	9	US-10-831-286A-48686	Sequence 48686, A
14	1007.2	69.1	1519	9	US-10-831-286A-48687	Sequence 48687, A
15	1005.4	69.0	1495	9	US-10-831-286A-48675	Sequence 48675, A
16	1005.2	69.0	1494	9	US-10-831-286A-48669	Sequence 48669, A
17	1005.2	69.0	1503	ø	US-10-831-286A-48665	Sequence 48665, A
18	1005.2	69.0	1514	9	US-10-831-286A-48666	Sequence 48666, A
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	57.4	57.4	57.5	57.5	57.6	57.6	57.6	57.7	58.1	58.3	58.4	67.1	67.2	67.3	67.8	67.8	67.9	68.3	68.3	68.3	68.3	68.6	68.8	68.9	68.9	69.0	
	3308	3169	1507	1486	1587	1545	1486	1509	1505	1513	1485	1525	1481	1436	1418	1418	1533	1542	1542	1542	1542	1486	1527	1501	1535	1494.	
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	US-10-793-626-3905	US-10-793-626-3356	US-11-055-637-78	US-11-055-637-71	US-11-273-617-8	US-11-055-637-66	US-11-055-637-69	US-11-273-617-6	US-11-055-637-80	US-11-055-637-79	US-11-055-637-76	US-10-831-286A-48689	US-10-831-286A-48672	US-10-831-286A-48667	US-10-831-286A-48692	US-10-831-286A-48691	US-10-831-286A-48668	US-11-198-657-158	US-11-198-794-158	US-11-198-746-158	US-09-941-095-158	US-10-831-286A-48679	US-10-831-286A-48693	US-10-831-286A-48670	US-10-831-286A-48678	US-10-831-286A-48676	
	Sequence 3905, Ap	3356	Sequence 78, Appl	Sequence 71, Appl	Sequence 8, Appli	Sequence 66, Appl	Sequence 69, Appl	Sequence 6, Appli	Sequence 80, Appl	Sequence 79, Appl	Sequence 76, Appl	Sequence 48689, A	Sequence 48672, A	Sequence 48667, A	Sequence 48692, A	Sequence 48691, A	Sequence 48668, A	Sequence 158, App	Sequence 158, App	Sequence 158, App	Sequence 158, App	Sequence 48679, A	Sequence 48693, A	Sequence 48670, A	Sequence 48678, A	Sequence 48676, A	

ALIGNMENTS

Db Qy	dg VQ	40 A	B 8	Query Match Best Local Si Matches 1287;	RESULT 1 US-11-198-242-2 Sequence 2, A Publication N GENERAL INFOR APPLICANT: A TITLE OF INV PILE REFEREN CURRENT FILL CURRENT FILL CURRENT FILL NUMBER OF .SE SOFTWARE: PA SEQ ID NO 2 LENGTH : 152 TYPE: DNA ORGANISM: B FEATURE: FEATURE: FEATURE: LOCATION: G OTHER INFOR
181 GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAAGGCCTAC 240	121 ACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGATCGAAA 180	61 CTGGTGGCGAGTGGCGGACGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGGTA 120	1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACGGATGCTTGCAT 60	Match 78.9%; Score 1149.2; DB 11; Length 1522; Local Similarity 88.2%; Pred. No. 0; es 1287; Conservative 0; Mismatches 163; Indels 10; Gaps 3;	SULT 1 11-198-242-2 111-198-242-2 Publication No. US/20060035345A1 Sequence 2, Application US/11198242 Publication No. US/20060035345A1 GENERAL INFORMATION: APPLICANT: AJINOMOTO CO., INC. TITLE OF INVENTION: Process for the production of beta-amino acids by using acylass file REFERENCE: AB04037 CURRENT FILING DATE: 2005-08-08 NUMBER OF SEQ ID NOS: 2 CURRENT FILING DATE: 2005-08-08 NUMBER OF SEQ ID NOS: 2 SOFTWARE: Patentin version 3.1 SEQ ID NO 2 LENGTH: 1522 TYPE: DNA ORGANISM: Burkholderia sp. FEATURE: NAME/KEY: 16S rDNA LOCATION: (1)(1522) OTHER INFORMATION: -11-198-242-2

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CGATCGTAGTCCGGATCGCACTCTGCAACTCGAGTGCGTGAAGCTGGAATCGCTAGTAAT
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                                                                                                             TAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAAGC 1257
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; OTHER INFORMATION:
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Publication No. US20060035345A1
Publication No. US20060035345A1
GENERAL INFORMATION:
APPLICANT: AJINOMOTO CO., INC.
TITLE OF INVENTION: Process for the production of beta-amino acids by using acylase FILE REFERENCE: AB04037
FULE REFERENCE: AB04037
CURRENT APPLICATION NUMBER: US/11/198,242
CURRENT FILING DATE: 2005-08-08
NUMBER OF SEO ID NOS: 2
SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 1282; Conservative
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ORGANISM: Variovorax
FEATURE:
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Sequence 5, Application US/10515311
Publication No. US20060030021A1
GENERAL INFORMATION:
APPLICANT: Turner, Susan J
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FILE REFERENCE: 11752-006US1
CURRENT APPLICATION NUMBER: US/10/515,311
CURRENT FILING DATE: 2004-11-22
PRIOR APPLICATION NUMBER: PCT/NZ2003/000100
PRIOR FILING DATE: 2003-05-22
SOFTWARE: Patentin version 3.1
SEQ ID NO 5
LENGTH: 1405
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                                                                             FILE REFERENCE: 18495-002US1
CURRENT APPLICATION NUMBER: US/10/513,639
CURRENT FILING DATE: 2004-11-05
PRIOR APPLICATION NUMBER: CN 02117991.3
PRIOR FILING DATE: 2002-05-28
PRIOR APPLICATION NUMBER: CN 02117647.7
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: PCT/CN02/00539
PRIOR APPLICATION NUMBER: PCT/CN02/00539
PRIOR FILING DATE: 2002-08-05
                                     NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSEQ for Windows
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/10513639 Publication No. US20060010511A1 GENERAL INFORMATION:
                                                                                                                                                                                             APPLICANT: Lin, Min
APPLICANT: Wang, Yiping
TITLE OF INVENTION: NOVEL GLYPHOSATE-TOLERANT
TITLE OF INVENTION: 5-ENOLPYRUYYLSHIKIMATE-3-PHOSPHATE SYNTHASE AND THE
TITLE OF INVENTION: ENCODING THE SAME
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LENGTH: 1501
TYPE: DNA
ORGANISM: Pseudomonas
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                                                        CGCACAAGCGGTGGAGCATGTGGTTTAATTCGAAGCAACGCGAAGAACCTTACCAGGCCT
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Query Match Best Local Similarity 82.9%; Pred. No. 2.5e-309; Matches 1214; Conservative 0; Mismatches 243; Indels 7; Gaps 4; Qy ATTGAACGCTGGCGGCAGTCTTTACACATGCAAGTCGAACGCAGCACGATGCTTG 57	; PKIOK FILING DATE: 2003-04-24 ; NUMBER OF SEQ ID NOS: 48788 ; SOFTWARE: Patentin version 3.2 ; SEQ ID NO 48683 ; LENGTH: 1493 ; TYPE: DNA ; ORGANISM: Pantoea dispersa US-10-831-286A-48683	MOIR, DONALL LACROIX, BRU CHILDRESS, IL CHILDRESS, GENU ENCE: 032796-1 PLICATION UMBER LING DATE: 20 ICATION NUMBER	A-48683 683, Ap NO. US ORMATIO ZENG, O	Oy 1437 GTGAGATTCATGACTGGGGTG 1457	1377 CCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACG	Db 1279 CCGATCGTAGTCCGGATCGCAGTCTGCAACTCGACTGCGTGAAGTCGGAATCGCTAGTAA 1338 Qy 1317 TCGCGGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACA 1376	1219 GTGCTACAATGGTCGGTACAGAGGGTTGCCAAGCCGCGAGGTGGAGCTAATCTCACAAAA 1257 CGCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAGTAA	1197 GTAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAAG	Qy 1137 ACCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCTTATGGGTAGGGCTTCACAC 1196	OY 1079 CCCTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAA 1136	Qy 1019 TGCATGGCTGTCGTCAGCTCGTGTGGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAA 1078
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Qy 239 ACCAAGGCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACACTGGGACTGAGACA 298	179 AAGACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCT	119 TAACGCATCGAAAGATGTGCTAATACGCATATACTCTAAGGAGGAAAGCAGGGAATCGA	GGGGA GGGGGA	1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGCAGCACG-GATGCTTGCA 59	3 W O	; SEQ 10 NO 48685 ; LENGTH: 1508 ; TYPE: DNA ; ORGANISM: Providencia rustigianii US-10-831-2868-48685	ייים כדיינ	FILE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STRAIN SECTET TOS IDMA SEQUENCES FILE REFERENCE: 032796-174.001 CURRENT APPLICATION NUMBER: US/10/831,286A CURRENT FILING DATE: 2004-04-26	SONIA O T. DATA DARRELL ARRELL	ORMATION:		QY 1434 ACGGTGAGATTCATGACTGGGGTG 1457.	OY 1374 ACACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCC 1433	OY 1314 TAATCGCGGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTC 1373	OY 1254 AAGCGCGTCGTAGTCCGGATCGGAGTCTGCACTCCGTGAAGTCGGAATCGCTAG 1313
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APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND
FILE REFERENCE: 032796-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER OF SEQ ID NOS: 48788
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Best Local Similarity 83.3
Matches 1220; Conservative
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APPLICANT: CHATELLIER, SONI
APPLICANT: MOIR, DONALD T.
APPLICANT: LACROIX, BRUNA
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TYPE: DNA
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APPLICANT: ZENG, QIANDONG
APPLICANT: CHATTELIER, SONIA
APPLICANT: MOIR, DONALD T.
APPLICANT: LACROIX, BRUNA
APPLICANT: LACROIX, BRUNA
APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STITLE REFERENCE: 032795-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 50/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER OF SEQ ID NOS: 48788 STRAIN SPECIFIC 16S rDNA SEQUENCES

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US-10-831-286A-48681
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Best Local Similarity
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SEQ ID NO 48681
LENGTH: 1494
TYPE: DNA
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GACCCGCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAAACCTTACCTA
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APPLICANT: CHATELLIER, SONIA
APPLICANT: MOIR, DONALD T.
APPLICANT: LACROIX, BRUNA
APPLICANT: LACROIX, BRUNA
APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STRAIN SPECIFIC 16S rDNA SEQUENCES
FILE REFERENCE: 032796-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER: PATENTAL STRAIN
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 48677
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60 TCTGG-TGGCGAGTGGCGGACGGGTGAGTAATGCATCCGGAACGTATCCAGAAGAGGGGGGG
                                                           11 ATTGAACGCTGGCGGCAGGCCTAACACATGCAAGTCGAGCGGTAACAGGGGAAGCTTGCT
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                                                                                                                              69.9%; ilarity 83.2%; Conservative
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APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STE
FILE REFERENCE: 032796-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER OF SEQ ID NOS: 48788
SOFTWARE: Patentin version 3.2
SEQ ID NO 48684
LENGTH: 1508
TYPE: DNA
ORGANISM: Providencia rustigianii
US-10-831-286A-48684
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US-10-831-286A-48684
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Publication No. US20060046246A1
GENERAL INFORMATION:
APPLICANT: ZENG, QIANDONG
APPLICANT: CHATELLIER, SONIA
APPLICANT: LACROIX, BRUNA
APPLICANT: LACROIX, BRUNA
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Best Local Similarity
Matches 1217; Conserv
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Pred. No. 5.3e-308;
0; Mismatches 240;
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APPLICANT: LACROIX, BRUNA
APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND
FILE REFERENCE: 032796-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 00/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER OF SEQ ID NOS: 48788
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 48682
LENGTH: 1510
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; ORGANISM: Moellerella wisconsensis
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Best Local Similarity 82.
Matches 1211; Conservative
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APPLICANT: CHATELLIER, SON
APPLICANT: MOIR, DONALD T.
APPLICANT: LACROIX, BRUNA
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                                                                                                                  AGGAAGGCGTTGATACTATACTATCAGCGATTGACGTTACCGACAGAAGAAGCACCGGC
                                                                                                                                        AAGAAAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGC
                                                                                                                                                                                       GATGCAGCCATGCCGCGTGTATGAAGAAGGCCCTTAGGGTTGTAAAGTACTTTCAGTCGGG
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Pred. No. 1.7e-307;
0; Mismatches 246;
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Sequence 48671, Application US/10831286A
Publication No. US20060048246A1
GENERAL INFORMATION:
APPLICANT: ZENG, QIANDONG
APPLICANT: CHATELLIER, SONIA
APPLICANT: MOIR, DONALD T.
APPLICANT: LACROIX, BRUNA
APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES
FILE REFERENCE: 032796-174.001
                                                                                                                                                                RESULT 12
US-10-831-286A-48671
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CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION NUMBER: 60/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER OF SEQ ID NOS: 48788
SOFTWARE: Patentin version 3.2
SEQ ID NO 48671
LENGTH: 1530
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ORGANISM: Citrobacter
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                                                         CGCCCTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGG-TAACGAAGCTAACG
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Pred. No. 2.6e-305;
0; Mismatches 251;
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3 B C	; SEQ ID NO 48686 ; LENGTH: 1492 ; TYPE: DNA ; ORGANISM: Yokenella regensburgei US-10-831-286A-48686	; PRIOR APPLICATION NUMBER: 60/464,955 ; PRIOR FILING DATE: 2003-04-24 ; NUMBER OF SEQ ID NOS: 48788 ; SOFTWARE: Patentin version 3.2	; TITLE OF INVENTION: GROUP, SPECIES AND/OR STRAIN SPECIFIC TOS FURN SEQUENCES; FILE REFERENCE: 032796-174.001 ; CURRENT APPLICATION NUMBER: US/10/831,286A ; CURRENT FILING DATE: 2004-04-26		NO. US200600 ORMATION: ZENG, QIANDO		Qy 1434 ACGGTGAGATTCATGACTGGGGTG 1457	OY 1374 ACACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGGGCTTTGCC 1433	OY 1314 TAATCGCGGATCAGAATGTCGCGGGTGAATACGTTCCCGGGGTCTTGTACACACCGCCCGTC 1373	QY 1254 AAGCGCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAG 1313	QY 1194 CACGTAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGA 1253	OY 1134 CANACCGGARGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCA 1193	OY 1075 GCAACCCTTGTCATTAATTGCCATC-ATTTGGTTGGGCACTTTAATGAGACTGCCGGTGA 1133	QY 1015 GTGCTGCATGGCTGTCAGCTCGTGTGTGAGATGTTGGGTTAAGTCCCGCAACGAGC 1074	OY 956 CCCTTGACATGTAGCGAATTTTCTAGAGATAGATTAGTG-CTTCGGGAACGCTAACACAG 1014	OY 896 GACCCGCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCTA 955	Db 862 CGTTAAGTCGACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAATGAATTGACGGG 921
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Oy 61 CTGGTGGCAGTGGCGGACGGTGAGTAATGCATCCAGAACAGAGGGGGG 118	Query Match Best Local Similarity 82.4%; Pred. No. 6.2e-305; Matches 1204; Conservative 0; Mismatches 253; Indels 5; Gaps 4; Qy 1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAGTCGAACGGTAGCACAGAGAGCTTGCT 60	Ω Ω	; APPLICANT: CHILDRESS, DARRELL; TITLE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STRAIN SPECIFIC 16S rDNA SEQUENCES; FILE REFERENCE: 032796-174.001; CURRENT APPLICATION NUMBER: US/10/831,286A; CURRENT FILING DATE: 2004-04-26; PRIOR APPLICATION NUMBER: 60/464,955	Omi	RESULT 14 US-10-831-286A-48687 ; Sequence 48687, Application US/10831286A	Qy 1436 GGTGAGATTCATGACTGGGGTG 1457	Qy 1376 ACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCAC 1435	OY 1316 ATCGCGGATCAGCATGTCGCGGGTGAATACGTTCCCGGGGTCTTGTACACACCGCCCGTCAC 1375	Qy 1256 GCGCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAGTA 1315	Qy 1196 CGTAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAA 1255	Qy 1136 AACCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACA 1195	1081 AACCCTTATCCTTTGTTGCCAGCGGTTCGGCCGGGAACTCAAAGGAGACTGCCAGTGATA
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APPLICANT: CHATELLIER, SONIA
APPLICANT: HORIR, DONALD T.
APPLICANT: LACROIX, BRUNA
APPLICANT: LACROIX, BRUNA
APPLICANT: CHILDRESS, DARRELL
TITLE OF INVENTION: GENUS, GROUP, SPECIES AND/OR STRAIN SPECIFIC 16S rDNA SEQUENCES
FILE REFERENCE: 032796-174.001
CURRENT APPLICATION NUMBER: US/10/831,286A
CURRENT FILING DATE: 2004-04-26
PRIOR APPLICATION UNMBER: 60/464,955
PRIOR APPLICATION UNMBER: 60/464,955
PRIOR FILING DATE: 2003-04-24
NUMBER: OF SEQ ID NOS: 48788
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 48675
LENGTH: 1495
TYPEE. NA
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ORGANISM: Proteus penneri
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                    TAACTACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGG
                                                                            AGGAAGGTGATAAAGTTAATACCTTTATCAATTGACGTTACCCGCAGAAGAAGCACCGGC
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2: /cgn2 6/ptodata/1/pubpna/USO9A_PUBCOMB.seq:*

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APPLICANT: Hovanec, Timothy A
TITLE OF INVENTION: Method of Using Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81289-294309
CURRENT APPLICATION NUMBER: US/10/659,948A
CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US 9/573,684
PRIOR FILING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
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CURRENT APPLICATION NUMBER: US/10/659,980A
CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US 09/573,684
PRIOR FILING DATE: 2000-05-19
PRIOR PLIUNG DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR PILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR PILING DATE: 2002-09-19
VUMBER OF SEQ ID NOS: 23
SOFTWARE: PALENTIN VERSION 3.2
SEQ ID NO 1
LENGTH: 1457
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US-10-659-980A-1
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Best Local Similarity 100.0%;
Matches 1457; Conservative C
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ORGANISM: Unknown
FEATURE:
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                     CAGCAATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA
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Sequence 1, Application No. US20040157313A1
GENERAL INFORMATION:
APPLICANT: HOVANGE, Timothy A
TITLE OF INVENTION: Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81299-284779
CURRENT APPLICATION UNMBER: US/10/659,983A
CURRENT FILING DATE: 2003-09-10
PRIOR FILING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR APPLICATION NUMBER: US 60/386,219
PRIOR FILING DATE: 2002-09-19
NUMBER OF SEQ ID NOS: 23
SEQ ID NO 1
LENGTH: 1457
TYPE: DNA
ORGANISM: Unknown
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Matches 1457; Conservative 0
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Pred. No. 0;
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                                                                                                    Sequence 2, Application US/10659948A Publication No. US20040101946A1 GENERAL INFORMATION:
APPLICANT: Hovanec, Timothy A
TITLE OF INVENTION: Method of Using Ammonia-Oxidizing
FILE REFERENCE: 81289-294309
CURRENT APPLICATION NUMBER: US/10/659,948A
CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US 09/573,684
PRIOR FILING DATE: 2000-05-19
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PRIOR FILING DATE: 2002-09-19
PRIOR PPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,219
PRIOR FILING DATE: 2002-09-19
PRIOR FILING DATE: 2002-09-19
NUMBER OF SEQ ID NOS: 23
SOFTWARE: Patentin version 3.2
SEQ ID NO 2
LENGTH: 1457
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FEATURE:
OTHER INFORMATION:
US-10-659-948A-2
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Best Local Similarity
Matches 1454; Conserv
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APPLICANT: HOVANGE, Timothy A ITTLE OF INVENTION: Method for Detecting Ammonia-Oxidizing Bacteria FILE REFERENCE: 81289-284781 (CURRENT APPLICATION UNMERS: US/10/659,980A (CURRENT APPLICATION NUMBER: US/10/659,980A (CURRENT FILING DATE: 2003-09-10 (PRIOR APPLICATION NUMBER: US/9/573,684 (PRIOR FILING DATE: 2000-05-19 (PRIOR APPLICATION NUMBER: US/0/386,217 (PRIOR APPLICATION NUMBER: US/0/386,217 (PRIOR APPLICATION NUMBER: US/0/386,218 (PRIOR FILING DATE: 2002-09-19 (PRIOR FILING DATE: 2002-09-19 (PRIOR APPLICATION NUMBER: US/0/386,219 (PRIOR APPLICATION NUMBER: US/0/386,219 (PRIOR FILING DATE: 2002-09-19 (PRIOR F
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                                                                            SEQ ID NO 2
LENGTH: 1457
TYPE: DNA
ORGANISM: Unknown
FEATURE:
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Oy 1 ATTGAACGCTGGCGGCATGCTTTACACATGCAAAGGCAGGACGCACGATGCTTGCAT 60	Query Match 99.7%; Score 1452.2; DB 7; Length 1457; Best Local Similarity 99.8%; Pred. No. 0; Matches 1454; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	ORGANISM: Unknown FEATURE: OTHER INFORMATION: AOB Type A1 R7clone187 16S rDNA US-10-659-983A-2	nt.	NG DATE: 2002-09-19 ICATION NUMBER: US 60/386,21 NG DATE: 2002-09-19 SEO ID NOG. 23	PRIOR APPLICATION NUMBER: US 07/3/3/004 PRIOR APPLICATION NUMBER: US 60/386,217 PRIOR FILING DATE: 2002-09-19 PRIOR PILING DATE: 2002-09-19	VETERINCE: 681289-284779 VETERENCE: 681289-284779 VET APPLICATION NUMBER: US/10/659, VETERINCE DATE: 2003-09-10	tion No. US20040157313A1 INFORMATION: ANT: Hovanec, Timothy A	RESULT 6 US-10-659-983A-2 US-10-659-983A-2	Oy 1441 GATTCATGACTGGGGTG 1457	Qy 1381 GGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTGA 1440	Oy 1321 GGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCACACCAT 1380	Oy 1261 TCGTAGTCCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCGC 1320	Qy 1201 TACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAAGCGCG 1260	Oy 1141 GAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAA 1200	Qy 1081 CTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCG 1140	Qy 1021 CATGGCTGTCGTCAGCTCGTGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCAACC 1080	Db 961 GACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGGTGCTG 1020
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81 CTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCG 81 CTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAACCG 41 GAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAA 41 GAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAA 41 GAGGAAGGTGGGGATGACGTCAAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACGTAA	1021 CATGGCTGTCGTCAGCTGTGCTGAGATGTTGGGTTAAGTCCTGCAACGAGGCAACC 1080	GACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGGTGCTG	901 GCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCCTT 960 	841 AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC 900	781 CTAAACGATGTCAACTAGTTGGTGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA 840 	721 GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC 780	661 TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT 720 	601 TGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	541 AAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT 600	481 TACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT 540	421 AAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC 480	361 CAGCAATGCCGCGTGAGGAGAGAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA 420	301 GCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATC 360	241 CAAGGCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACCACTGGGACTGAGACACG 300	181 GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTAC 240	121 ACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGATCGAAA 180 	61 CTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGTA 120

RESULT 7 US-10-659-948A-20 US-10-659-948A Sequence 20, Application US/10659948A Publication No. US20040101946A1 Publication NUMBER: US10/659,948A CURRENT FILING DATE: 2003-09-10 PUBLIC REPERANCE: 81289-294309 CURRENT FILING DATE: 2003-09-19 PUBLIC REPERANCE: 81289-294309 PUBLIC REPERANCE: 81289-29	Db 1381 GGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTGA 1440 Qy 1441 GATTCATGACTGGGGTG 1457 Db 1441 GATTCATGACTGGGGTG 1457	1201 TACAATGGCCGTACAGAGGTTTGCCACCCGCGAGGGAGGAATCTCAAAGCGCG 1261 TCGTAGTCCGGATCGGAGTCTCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCGC 1261 TCGTAGTCCGGATCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCGC 1261 TCGTAGTCCGGATCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTAATCGC 1321 GGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGC	QY 1201 TACAATGGCGCGTACAGAGGGTTGCCAACCCCGCGAGGGGGAGCTAATCTCAGAAAGCGCG 1260
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601 TGCGTTTGAMACTACAMAGCTAGAGTGGGAAGGTGGAMTCCANGTGTACCAGG [AAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT	vv 00	CCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATC 3

QY 421 AAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTAAC 480	Qy 361 CAGCAATGCCGCGTGAAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA 420	QY 301 GCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGATC 360	QY 241 CAAGGCGACGATCAGTAGTTGGTCTGAGAGGACCACGCCACACTGGGACTGAGACACG 300	OY 181 GACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGTTGGTGGGGTAAAGGCCTAC 240	QY 121 ACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAAGCAGGGGATCGAAA 180	Qy 61 CTGGTGGCGAGTGGCGGACGGTGAGTAATGCATCGGAACGTATCCAGAAGAGGGGGGTA 120	OY 1 ATTGAACGCTGGCGGCATGCTTTACACATGCAACGCCAGGCACGGCAGCACGGATGCTTGCAT 60	3 B Q	ORGANISM: Unknown ; ORGANISM: Unknown ; OTHER INFORMATION: N. Aestuarii-like AOB BF16clone57 16S rDNA US-10-659-980A-20	Pate 20 1491	; PRIOR FILING DATE: 2002-09-19 ; PRIOR APPLICATION NUMBER: US 60/386,219 ; PRIOR FILING DATE: 2002-09-19 ; PRIOR FILING DATE: 2002-09-19 . NUMBER OF SEO ID NOS: 23	PRIOR FILING DATE: 2002-09-19 PRIOR FILING DATE: 2002-09-19 PRIOR FILING DATE: 2002-09-19	FILE REFERENCE: 8129-284781 FULL REFERENCE: 8129-284781 CURRENT APPLICATION NUMBER: US/10/659,980A CURRENT FILING DATE: 2003-09-10 BEIOR REFERENCE: 8104523 684		RESULT 8 US-10-659-980A-20 Company 20 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10	QY 1440 AGATTCATGACTGGGGTG 1457	OY 1380 TGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGGTG 1439
RESULT 9 US-10-659-983A-20 ; Sequence 20, Application US/10659983A ; Publication No. US20040157313A1	Db 1458 AGATTCATGACTGGGGTG 1475	1398	1338	1278	1218	1158	1098	1020	Qy 961 GACATGTAGCGAATTTTCTAGAGATAGATTAGTG-CTTCGGGAACGCTAACACAGGTGCT	Qy 901 GCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCCTAT	OY 841 AGTTGACCGCCTGGGGAGTACGCTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC	OY 781 CTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAACGCGTGA	Oy 721 GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC	Qy 661 TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT	Qy 601 TGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	OY 541 AAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT	Qy 481 TACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT

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APPLICANT: HOWARCE, Timothy A
TITLE OF INVENTION: Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81289-284779
CURRENT APPLICATION NUMBER: US/10/659,983A
CURRENT APPLICATION NUMBER: US 09/573,684
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
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; OTHER INFORMATION:
US-10-659-983A-20
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LENGTH: 1491
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Best Local Similarity
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ORGANISM: Unknown
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 TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT
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Pred. No. 0;
0; Mismatches
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APPLICANT: Hovanec, Timothy A
TITLE OF INVENTION: Method of Using Ammonia-Oxidizing Bac
FILE REFERENCE: 81289-294309
CURRENT APPLICATION NUMBER: US/10/659,948A
CURRENT FILING DATE: 2003-09-10
FRIOR APPLICATION NUMBER: US 09/573,684
PRIOR FILING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR PILING DATE: 2002-09-19
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
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                                                                                                                                                                                                            Sequence 19, Application US/10659948A Publication No. US20040101946A1 GENERAL INFORMATION:
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NUMBER OF SEQ ID NOS: 23
SOFTWARE: PatentIn version 3.2
SEQ ID NO 19
LENGTH: 1494
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OTHER INFORMATION:
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Sequence 19, Application US/10659980A
; Publication No. US20040106133A1
; GENERAL INFORMATION:
APPLICANT: HOVANCE, Timothy A
TITLE OF INVENTION: method for Detecting Ammo
FILE REFERENCE: 81289-284781
; CURRENT APPLICATION NUMBER: US/10/659,980A
; CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US 09/573,684
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR APPLICATION NUMBER: US 60/386,217
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PRIOR APPLICATION NUMBER: US 60/386,219
PRIOR FILING DATE: 2002-09-19
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                                                                                                 FEATURE:
OTHER INFORMATION:
US-10-659-980A-19
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US-10-659-980A-19
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SEQ ID NO 19
LENGTH: 1494
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US-10-659-983A-19
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SEQ ID NO 19
LENGTH: 1494
TYPE: DNA
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APPLICANT: HOVANEC, Timothy A
APPLICANT: HOVANEC, Timothy A
TITLE OF INVENTION: Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81289-284779
CURRENT FILING DATE: 2003-09-10
PRIOR APPLICATION NUMBER: US 09/573,684
PRIOR FILING DATE: 2000-05-19
PRIOR FILING DATE: 2000-05-19
                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 1402; Conser
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                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,219
PRIOR FILING DATE: 2002-09-19
NUMBER OF SEQ ID NOS: 23
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    <u>ACGCATCGAAAGATGTGCTAATACCGCATATTCTCTACGGAGGAAAGCAGGGGATCGAAA</u>
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                                   ATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGGAGCTAATCTCAGAAAGCGC
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APPLICANT: Hovanee, Timothy A
INTIE OF INVENTION: Method of Using Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81289-294309
CURRENT APPLICATION NUMBER: US/10/659,948A
CURRENT APPLICATION NUMBER: US 09/573,684
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2000-05-19
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
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US-10-659-948A-18
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Best Local Similarity
Matches 1414; Conserv
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CURRENT APPLICATION NUMBER: US/10/659,980A

CURRENT FILING DATE: 2003-09-10

PRIOR APPLICATION NUMBER: US 09/573,684

PRIOR APPLICATION NUMBER: US 60/386,217

PRIOR FILING DATE: 2000-05-19

PRIOR FILING DATE: 2002-09-19

PRIOR APPLICATION NUMBER: US 60/386,218

PRIOR APPLICATION NUMBER: US 60/386,218

PRIOR APPLICATION NUMBER: US 60/386,219

PRIOR APPLICATION NUMBER: US 60/386,219

PRIOR PILING DATE: 2002-09-19

PRIOR FILING DATE: 
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US-10-659-980A-18
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Best Local Similarity
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ORGANISM: Unknown
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RESULT 15
US-10-659-983A-18
Sequence 18, Application US/10659983A
Publication No. US20040157313A1
GENERAL INFORMATION:
APPLICANT: Hovanec, Timothy A
TITLE OF INVENTION: Ammonia-Oxidizing Bacteria
FILE REFERENCE: 81289-284779
CURRENT APPLICATION NUMBER: US/10/659,983A
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PRIOR APPLICATION NUMBER: US 09/573,684
PRIOR FILING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/386,217
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,218
PRIOR FILING DATE: 2002-09-19
PRIOR APPLICATION NUMBER: US 60/386,219
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US-10-659-983A-18
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ORGANISM: Unknown
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                                                                                                                                                                  TACGTGCCAGCAGCCGCGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT
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                                                                                  TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACACT
                                                                                                                                                                                                                    AAAGGGTGCGCAGGCGTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT
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                                                             TGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCCCCTGGGTTAACACT
                                                                                                                                       AAAGGTTGTGACTAATAATCACAACTTATGATGGTACCGACAGAAGAAGCACCGGCTAAC
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Pred. No. 0;
0; Mismatches
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Search completed: April 6, 2006, 23:35:31 Job time : 1288 secs
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                                                                                       AGATTCATGACTGG 1467
                                                                                                                            AGATTCATGACTGG 1453
                                                                                                                                                                                    TGGGAGTGGGTTTCACCAGAAGCAGATAGTCTAACCGTAA-GAGGGCGTTTGCCACGGCG 1453
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Gapop 10.0 , Gapext 1.0
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1457
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                                    Issued_Patents_NA:*
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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/cgn2_6/ptodata/1/ina/5_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/H_COMB.seq:*
/cgn2_6/ptodata/1/ina/H_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/RE_COMB.seq:*
/cgn2_6/ptodata/1/ina/RE_COMB.seq:*
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US-08-642-229A-1
US-09-726-774-5
US-09-726-779-1
US-09-342-579-1
US-09-617-854A-1
US-09-617-854A-1
US-08-642-229A-3
US-08-642-229A-3
US-08-642-229A-3
US-09-735-567-7
US-09-735-567-7
US-09-735-567-7
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US-09-735-567-3
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US-09-492-709A-89	US-08-114-695A-1	US-09-737-297-1	US-09-726-774-4	US-09-726-774-2	US-10-061-071-33	US-09-548-998E-33	US-09-655-378A-158	US-08-520-946-158	US-09-465-355-2	US-08-757-653-158	US-09-726-774-3	US-09-726-774-14	US-10-007-527A-12	US-08-114-695A-6	US-09-737-297-4	US-08-632-470-53	US-10-252-518-5	US-09-791-610-1	US-10-266-787-5	US-10-105-305-1 ·
Sequence 89, Appl	Sequence 1, Appli	Sequence 1, Appli	4,	Sequence 2, Appli	Sequence 33, Appl	,	Sequence 158, App	-	₽	Sequence 158, App	Sequence 3, Appli		Sequence 12, Appl		Sequence 4, Appli	Sequence 53, Appl		•	Sequence 5, Appli	Sequence 1, Appli

ALIGNMENTS

MOLECULE TYPE: nucleic acid DESCRIPTION: "16S ribosomal DNA"
inear
STRANDEDNESS: single
H: 1536
CHARACTERISTICS:
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4938023
TRIBERY: (206) 682 6100
ATTON LINE
REFERENCE/DOCKET NUMBER: UOFW19233
TRATION NUMBER: 35,3
NAME: Sheiness, Diana K.
AGENT I
Y-1994
APPLICATION NUMBER: US 08/246,865
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CLASSIFICATION: 435
PILING DATE:
ADDITONTION NIMBERD: IIC/OS/K40 0000
SUFTWARE: FACEREIN RELEASE #1.0, VETSION #1.30
SISTEM: PC-DOS/MS-DOS
DA WRT
PE: Flo
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Seattle
420 Fifth Avenue, Suite 2800
ADDRESSEE: Christensen O'Connor Johnson and Kindness PLLC
NOMBER OF SECUENCES: LO
OF INVENTION: Degradation
CANT: Strand, Stuart E.
Stensel, H.
Bielefel
APPLICANT: Herwig, Russell P.
VFORM
Sequence 1, Apprication of consumers
POTENTS 1 Prolication TR/OR642229A
OB - NAO - 229 P - 1

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Best Local Similarity
Matches 1274; Conserv
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ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Comamonas
925
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Sequence 5, Application US/09726774

Patent No. 6677153

GENERAL INFORMATION:
APPLICANT: IVERSEN, Patrick L.
TITLE OF INVENTION: Antisense Antibacterial Met
TITLE OF INVENTION: Composition
FILE REFERENCE: 0450-0032.30

CURRENT APPLICATION NUMBER: US/09/726,774

CURRENT FILING DATE: 2000-11-29

PRIOR APPLICATION NUMBER: US 60/168,150
PRIOR FILING DATE: 1999-11-29

NUMBER OF SEQ ID NOS: 139

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 5
LENGTH: 1544
TYPE: DNA

ORGANISM: Neisseria gonorrhoea
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                                                                                                                                                                          TELEFAX: 612-339-3061
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 1536 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: rRNA
ORIGINAL SOURCE:
ORGANISM: Pseudomonas tes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application Patent No. 5508193
                                                                                                                      Query Match
Best Local Similarity
                                                                                                          Matches 1022;
                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: PatentIn Release #1.0, Vers
CURRENT APPLICATION UNMBER: US/08/114,695A
FILING DATE: 31-AUG-1993
CLASSIFICATION: 435
ATTORNEY JAGENT INFORMATION:
NAME: MUSTING, ANN M.
REGISTRATION NUMBER: 600.268US1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-339-0331
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Mandelbaum, Raphael T
APPLICANT: Mackett, Lawrence P.
TITLE OF INVENTION: DEGRADATION
TITLE OF INVENTION: WATER
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
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CURRENT FILING DATE: 1999-06-29
EARLIER APPLICATION NUMBER: 60/091,645
EARLIER FILING DATE: JULY 2, 1998
NUMBER OF SEQ ID NOS: 4
SOFTWARE: MICROSOFT Office 97
SEQ ID NO 1
LENGTH: 1451
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Best Local Similarity
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APPLICANT: MCCUTCHEN, CAROL M.
APPLICANT: NAGARAJAN, VASANTHA
APPLICANT: THOMAS, STUART M.
TITLE OF INVENTION: Microbial Production
TITLE OF INVENTION: Isophthalic Acid
FILE REFERENCE: CL-1257
                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 1451
TYPE: DNA
ORGANISM: Burkholderia
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APPLICANT: THOMAS, STUART M.
TITLE OF INVENTION: Microbial Production of T
TITLE OF INVENTION: Isophthalic Acid
FILE REFERENCE: CL-1257
CURRENT APPLICATION NUMBER: US/09/617,854A
CURRENT FILLING DATE: 2001-09-04
PRIOR APPLICATION NUMBER: 60/091,645
PRIOR APPLICATION NUMBER: 60/091,645
PRIOR FILING DATE: JULY 2, 1998
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Microsoft Office 97
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Patent No. 6461840
GENERAL INFORMATION:
APPLICANT: BRAMUCCI, MICHAEL G.
APPLICANT: MCCUTCHEM, CAROL M.
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MCCUTCHEN, CAROL M.
NAGARAJAN, VASANTHA
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                                                                                                                                                                                                                                                                                                    Sequence 2, Application US/08642229A
Patent No. 5874291
                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Herwig, Russell P.
APPLICANT: Bielefeldt, Angela R.
APPLICANT: Stensel, H. David
APPLICANT: Strand, Stuart E.
TITLE OF INVENTION: Degradation of Environmental
TITLE OF INVENTION: Filamentous Bacterium
                                                 STREET: 142.
STREET: Seattle
CITY: Seattle
Washington
COUNTRY: USA
ZIP: WA 98101-2347
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                      NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS: Christens
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                                                                                                       E: Christensen O'Connor Johnson and Kindness PLLC
1420 Fifth Avenue, Suite 2800
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; ORGANISM: Bra-
US-08-642-229A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 1260; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEX: 4938023
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Sheiness, Diana K.
REGISTRATION NUMBER: 35,356
REFERENCE/DOCKET NUMBER: UOFV
TELECOMPUNICATION INFORMATION:
TELEPHONE: (206) 682 8100
TELEFAX: (206) 224 0779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: nucleic acid
DESCRIPTION: "16S ribosom
HYPOTHETICAL: NO
ANTI-SENSE: NO
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 20-MAY-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: nucleic acid
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   AAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAAT
                                                                                                         AAAGGCTCTGGTTAATACCTGGGGCTCATGACGGTACTGTAAGAATAAGCACCGGCTAAC
                                                                                                                                                                                                             CAGCAATGCCGCGTGAGTGAAGAAGGCCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAAGA
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                                                                          TACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCGT
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Pred. No. 0;
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RESULT 7
US-09-735-567-4/c
Sequence 4, Application US/09735567
Patent No. 6608190
GENERAL INFORMATION:
APPLICANT: Bramucci, Michael
APPLICANT: Bramucci, Michael
APPLICANT: INVENTION: Nucleic Acid Fragments for the Identification of Bacteria
TITLE OF INVENTION: Industrial Wastewater Bioreactors
FILE REFERENCE: BC1033 US NA
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CURRENT FILING DATE: 2000-12-13
PRIOR APPLICATION NUMBER: 60/171,140
PRIOR FILING DATE: 16 DECEMBER 1999
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Microsoft Office 97
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 1258; Conserv
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OTHER INFORMATION: Description of Unknown
OTHER INFORMATION: Nucleotide sequence of
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TYPE: DNA
ORGANISM: Unknown
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                                                                        GACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCC
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Pred. No. 0;
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RESULT 8
US-08-642-229A-3
                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/08642229A Patent No. 5874291
                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Herwig,
APPLICANT: Bielefel
APPLICANT: Stensel
               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                       TUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                    ITILE OF INVENTION: Degradation of Environmental
ITILE OF INVENTION: Filamentous Bacterium
                                                                                                                        COUNTRY: USA
ZIP: WA 98101-2347
 APPLICATION NUMBER:
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                                                                                                                                                                                              1420 Fifth Avenue, Suite 2800
                                                                                                                                                                                                                                                                                                        Strand, Stuart E
                                                                                                                                                                                                                                                                                                                       Bielefeldt, Angela R.
Stensel, H. David
                                                                                                                                                                                                                 Christensen O'Connor Johnson and Kindness
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1455 bann
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HYPOTHETICAL: N
ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: nucleic acid
DESCRIPTION: "16S ribosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 682 8100 TELEFAX: (206) 224 0779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 20-MAY-1994
ATTORNEY/AGENT INFORMATION:
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STRAIN: A-1
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REFERENCE/DOCKET NUMBER: UO
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TYPE: nucleic acid
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 GTAAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATTCCCCGGGCTTTAACCTGGGA 598
                                                                                                                                               ACTACGTGCCAGCAGCCGCGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGC 538
                                                                                                                                                                                 GAAAAGGCTCTCTAATACAGAGAGCCGATGACGGTACCGTAAGAATAAGCACCGGCTA
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RESULT 9
US-08-114-695A-8
                                                                                                                                                                           Sequence 8, Application US/08114695A Patent No. 5508193
                                                      GENERAL INFORMATION:
APPLICANT: Mandelbaum, Raphael T.
APPLICANT: Mackett, Lawrence P.
TITLE OF INVENTION: DEGRADATION O
TITLE OF INVENTION: WATER
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: SCHWEGMAN, LUNDBERG & WOESSNER,
STREET: 3500 IDS CENTER
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Best Local S
Matches 992
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COMPUTER: IBM PC COMPATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
COURTENT APPLICATION DATA:
APPLICATION NUMBER: US/08/114,695A
FILING DATE: 31-AUG-1993
CLASSIFFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MUETING, ANN M.
REGISTRATION NUMBER: 33,977
REGISTRATION NUMBER: 600.268US:
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INFORMATION FOR SEQ ID NO: 8:
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MOLECULE TYPE: r
ORIGINAL SOURCE:
ORGANISM: Pseu
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LENGTH: 1474 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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MEDIUM TYPE: Floppy
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hes 992; Conserv
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STATE: MN
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TAAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGAA
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                                                            CUACGUGCNAGCAGCCGCGNNNAUACGUAGGGUGCAAGCGUUAAUCGGAAUUACUGGGCG
                                                                                         CTACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGCG
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GENERAL INFORMATION:
APPLICANT: Branucci, Michael
TITLE OF INVENTION: Nucleic Acid Fragments for the Identification
TITLE OF INVENTION: Industrial Wastewater Bioreactors
FILE REFERENCE: BC1033 US NA
CURRENT APPLICATION NUMBER: US/00/7125 567
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PRIOR APPLICATION NUMBER: 60/171,140
PRIOR FILING DATE: 16 DECEMBER 1999
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Microsoft Office 97
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Query Match 74.1%; Score 1080.2; DB 3; Length 1454; Best Local Similarity 85.6%; Pred. No. 0; Matches 1251; Conservative 0; Mismatches 198; Indels 12; Gaps 4;		7 1454 A A I Inknown Organism		INVENTION: Industrial Wastewater Bioreactors REBUCE: BC1033 US NA APPLICATION NUMBER: US/09/735,567 FILIG DATE: 2000-12-13	O. 6608190 INFORMATION: NT: Bramucci,	RESULT 11 US-09-735-567-7	QY 1438 TGAGATTCATGACTGGGGTG 1457	OY 1378 CATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCACGG 1437	Oy 1318 CGCGGATCAGCATGTCGCGGTGAATACGTTCCCGGGGTCTTGTACACACCGCCCGTCACAC 1377	Qy 1258 GCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAGTAAT 1317	Qy 1198 TAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGGTAATCTCAGAAAGC 1257	OY 1138 CCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACACG 1197	Oy 1078 ACCCTTGTCATTAATTGCCATCATTTGGTTGGGCACTTTAATGAGACTGCCGGTGACAAA 1137	Qy 1018 CTGCATGGCTGTCGTCAGCTCGTGTGAGATGTTGGGTTAAGTCCCGCAACGAGCGCA 1077	Qy 961 GACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGGTG 1017	Qy 901 GCACAAGCGGTGGATTAATTTGGATTGAATGCAAGCGGAAAAACCTTACCCTT 960	Qy 841 AGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGACCC 900
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SOFTWARE: Microsoft (
SEQ ID NO 2
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TITLE OF INVENTION: Nuclaic Acid Fragments for the Identification of
TITLE OF INVENTION: Industrial Wastewater Bioreactors
FILE REFERENCE: BC1033 US NA
CURRENT APPLICATION NUMBER: US/09/735,567
CURRENT FILING DATE: 2000-12-13
PRIOR APPLICATION NUMBER: 60/171,140
PRIOR PILING DATE: 16 DECEMBER 1999
PRIOR FILING DATE: 16 DECEMBER 1999
NUMBER OF THE NEW 1999
NUM
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ORGANISM: Unknown Organism
FEATURE:
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Qy 119 TAACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAAAGCAGGGGATCGA 178	QY ' 60 TCTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAACATGTCCTGTAGTGGGGGG 118	OY 1 ATTGAACGCTGGCGGCATGCTTTACA-CATGCAAGTCGAACGGCAGCACGGATGCTTGCA 59 1	Query Match Best Local Similarity 86.6%; Pred. No. 0; Matches 1264; Conservative 0; Mismatches 182; Indels 14; Gaps 8;	DEDNESS: OGY: unkr E TYPE: C	ສ " ດ ຊ	IO.	중모였다	CLASSIFICATION: CLASSIFICATION DATA: PRIOR APPLICATION UNMBER: 60/044,532 FILING DATE: 03.ADP-1997	SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/063,898 FILING DATE:	COMPUTER EADABLE FORM: MEDIUM TYPE: Diskette COMPUTER: IBM Compatible COMPUTER: IBM Compatible	TRY:	EQUENCES: 1 SICE ADDRESS: SIC Pennie & Edmonds LLP	Falkinha Cain, Co NVENTION: NVENTION:	1, Application US . 6319497 INFORMATION: ANT: Casida Jr.		Qy 1436 GGTGAGATTCATGACTGGGGTG 1457	Qy 1376 ACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGGAGGGCGCTTGCCAC 1435	Db 152 ATCGTGGATCAGCATGTCACGGTGAATACGTTCCCGGGTCTTGTACACACCGCCCGTCAC 93
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1196 CGTRATRICATIGGCGCTTRCAGAGGGTTTGCCRACCCGCGAGGGGGAGCTRATCTCAGAAA 1255	ACCGGAGAAGGTGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACA 1 AACCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGTAGGGC-TCACA 1 AACCGGAGGAAGGTGGGGATGACGTCAAGTCCTCATGGCCCTTATGGTAGGGC-TCACA 1	CARCCCTIGICATION SECTION STATES TO SECTION SEC		959 TIGACATGTAGCGAATTITCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGG 1015	899 CCGCACAAGCGGTGGATTATGTGGATTAATTCGATGCAAACGCGAAAAACCTTACCTACC	839 GAAGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGAC 898 	779 CCCTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTAGTAACGAAGCTAACGCGT 838	719 CTGACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACG 778	659 AGTGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACA 718:	599 ATTGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	539 GTAAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGA 598	479 ACTACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGC 538	419 GAAAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTA 478	359 TCCAGCAATGCCGCGTGAAGTGAAAGACCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAA 418	299 CGGCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGA 358	239 ACCANGSCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACCTGGGACTGAGACA 296		123 TAGCCCGGCGAAAGCCGGATTAATACCGCATACGATCTACGGATGAAAAGCGGGGGACCTT 182

Query Match 72.8%; Score 1060.8; DB 3; Length 1495; Best Local Similarity 86.6%; Pred. No. 0; Matches 1264; Conservative 0; Mismatches 182; Indels 14; Gaps 8; Qy 1 ATTGAACGCTGGCGGCATGCTTTACA-CATGCAAGTCGAACGGCAGCACGGATGCTTGCA 59	MOLECULE TYPE: Genomic DNA SEQUENCE DESCRIPTION: SEQ ID NO: 1: US-09-985-946-1	SEQUENCE CHARACTERISTICS: SEQUENCE CHARACTERISTICS: LENGTH: 1495 base pairs TYPE: nucleic acid STPPANNENNESS: unknown	TELEPHONE: (212)7909090 TELEPAX: (212)8699741 TELEX: 66141 PENNIE TRECORNATION FOR SET IN NO. 1.	NAME: Misrock, Leslie REGISTRATION NUMBER: 18,872 REFERENCE/DOCKET NUMBER: 8743-006-999 REFERENCE/DOCKET NUMBER: 8743-006-999	FILING DATE: 22-APR-1998 APPLICATION NUMBER: 60/044,532 FILING DATE: 23-APR-1997 ATTORNEY/AGRET INFORMATION:	FILING LATE: 06-No. 6689357-2001 CLASSIFICATION: <unknown> PRIOR APPLICATION DATA: PRIOR APPLICATION DATA: APPLICATION DATA:</unknown>	OPERATION SYSTEM: DOS SOPTWARE: FASTSEQ Version 2.0 CURRENT APPLICATION DATA:	ZIP: 20006 COMPUTER READABLE FORM: REDIUM TYPE: Diskette	57 K Street, N.W.	F SEQUENCES: 1 NDENCE ADDRESS:	da, Jr., Lester E. inham, III, Joseph Oliver , Cody C.	US-09-985-846-1 ; Sequence 1, Application US/09985846 ; Patent No. 6689357 ; CENERAL INFORMATION.		1435 CGGTGAGATTCATGACTGG 1454	Oy 1376 ACCATGGGAGTGGGTTTCACCAGAAGCAGGTAGTCTAACCGTAAGG-AGGGCGCTTGCCA 1434	ATCGCGGATCAGCATGCCGCGGTGAATACTTTCCCGGGTTTTGTACACACCGCCCGTCAC	1255	Qy 1256 GCGCGTAGTCCGGATCGGAGTCTGCAACTCGACTCCGTGAAGTCGGAATCGCTAGTA 1315 .
Q b Q	d dd	Db Qy	da Vo	g Qy	Qy db	D Q	₽ &	D Q	Q	Db Qy	₽ <i>Q</i>	Qy Db	B 8	da 4	O B	& 8	ş 8	άđ
1016 TGCTGCATGGCTGTCGTCAGCTGTGTGTGTGGATGTTGGGTTAAGTCCGGCAACGACG 1075	959 TTGACATGTAGCGAATTTTCTAGAGATAGATTAGTGCTTCGGGAACGCTAACACAGG 1015	899 CCGCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCTACC	839 GAAGTTGACCGCCTGGGGAGTACGGTCGCAAGATTAAAACTCAAAGGAATTGACGGGGAC 898. 	779 CCCTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAACGCGT 838	719 CTGACGCTCATGCACGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACG 778	659 AGTGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAACA 718	599 ATTGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	539 GTAAAGGGTGCGCAGGCGGCTTTGTAAGTCAGATGTGAAATCCCCGGGCTTAACCTGGGA 598	479 ACTACGTGCCAGCAGCCGCGGTAATACGTAGGGTGCAAGCGTTAATCGGAATTACTGGGC 538	419 GAAAAGGTTACGGTAAATAATCGTGACTCATGACGGTATCGACAGAAGAAGCACCGGCTA 478	359 TCCAGCAATGCCGCGTGAGGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAGAA 418	299 CGGCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGCGCAAGCCTGA 358	239 ACCAAGGCGACGATCAGTAGTTGGTCTGAGAGGACGACCAGCCACACTGGGACTGAGACA 298	GGGCCTCGCGCTATAGGGTTGGCCGATGGCTGATTAGCTAGTTGGTGGGTAAAAGGCCT	179 AAGACCTTGCGCTTTTGGAGCGGCCGATGTCTGATTAGCTAGGTTGGGGGGGTAAAGGCCT 238	TAACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAGGAGGAGAAAGCAGGGGATCGA	60 TCTGGTGGCGAGTGGCGGACGGGTGAGTAATGCATCGGAAC-GTATCCAGAAGAGGGGGGG 118	

117 GGTAACGCATCGAAAGATGTGCTAATACCGCATATACTCTAAAGGAGGAAAGCAGGGGATC	Query Match 72.3%; Score 1053; DB 3; Length 1540; Best Local Similarity 84.7%; Pred. No. 0; Matches 1242; Conservative 0; Mismatches 215; Indels 10; Gaps 5; Matches 1242; Conservative 0; Mismatches 215; Indels 10; Gaps 5; Qy 1 ATTGAACGCTGGCGCATGCTTTACACATGCAAGTCGAACGCACGGATGCTTGCAT 60	TYPE: DNA ORGANISM: Unknown Organism PEATURE: OTHER INFORMATION: Description of Unknown Organism:Bacterium SG-3; OTHER INFORMATION: gram negative; rod-shaped; exhibits flagellate OTHER INFORMATION: motility; pathogenic to cyanobacteria and algae; OTHER INFORMATION: yellow colonies on BG-11 medium suppl. with trytic US-09-228-184-1	NVENTION: CONTROL OF CYN ENCE: 013243-0007 PLICATION NUMBER: US/09/2 LING DATE: 1999-01-11 SEQ ID NOS: 1 PatentIn Ver. 2.1	RESULT 15 US-09-228-184-1 ; Sequence 1, Application US/09228184 ; Patent No. 6322782 ; GENERAL INFORMATION: ; APPLICANT: WALKER, Harrell L. ; APPLICANT: WALKER, Lawrence R	CGGTGAGATTCATGACTGGG 1454	Oy 1316 ATCGCGATCAGCATGTCGCGGTGAATACGTTCCCGGGTCTTGACACACCGCCCGTCAC 1375 1315 ATCGCGGATCAGCATGCCGGGTGAATACTTTCCCGGGTTTTGTACACACCGCCGTCAC 1374 Db 1316 ACCATGGGAGTGGGTTTCACCAGAAGCAGGTCTTAACGGTAAGG-AGGGCGTTGCCA 1434 Oy 1376 ACCATGGGAGTGGGTTTTACCAGAAGTAGTCTAACCGCAAGGAAGAACGGTCCCCA 1434 Db 1375 ACCATGGGAGTGGGTTTTACCAGAAGTGGCTAGTCTAACCGCAAGGAAGG	1256 GCGCGTCGTAGTCCGGATCGGAGTCTGCAACTCCGTGAAGTCGGAATCGCTAGTA	Qy 1196 CGTAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGGAGCTAATCTCAGAAA 1255	Db 1082 CAACCCTTGTCCTTAGTTGCTACGCAAGAGCACTCTAAGGAGACTGCCGGTGACA 1136 Qy 1136 AACCGGAGGAAGGTGGGGGATGACGTCAAGTCCTCATGGCCCTTATGGGTAGGGCTTCACA 1195 Db 1137 AACCGGAGGAAGGTGGGGATGACGTCCAAGTCCTCATGGCCCTTATGGGTAGGGC-TCACA 1195
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1192 CACACGTAATACAATGGCGCGTACAGAGGGTTGCCAACCCGCGAGGGGAGCTAATCTCA 1251		895 GGACCCGCACAAGCGGTGGATTATGTGGATTAATTCGATGCAACGCGAAAAACCTTACCT 954	777 CGCCCTAAACGATGTCAACTAGTTGTTGGGCCTTATTAGGCTTGGTAACGAAGCTAAC 834	657 GCAGTGAAATGCGTAGAGATATGGAAGAACATCGATGGCGAAGGCAGCCTCCTGGGTTAA 716	597 GAATTGCGTTTGAAACTACAAGGCTAGAGTGTGGCAGAGGGAGG	4// TACTAC GRECCAG CAGCAG CAGCAG TACTAG TO THE CONTROL OF THE CAGCAG CAG		357 GATCCAGCAATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCAGTCGAG 416 	264 CCACCAAGGCGACGATCGGTAGCTGGTCTGAGAGGATGATCAGCCACACTGGAACTGAGA 323 297 CACGGCCCAGACTCCTACGGGAGGCAGCAGTGGGGAATTTTTGGACAATGGGCGCAAGCCT 356